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MEN WHO KILL WOMEN

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PART I

"Every murderer strikes the mirror....."
John Berryman.

Murder and those who do murder are provocative subjects of study for the psychiatrist. Nevertheless, the vigorous enforcement of strictures against those who kill and the characteristic circumstances under which the murderer is seen do not favor a clearer understanding of his behaviour.

The court clinic often labors under the greatest obstacles in this regard. Sharply restricted as to time, the psychiatrist to whom presentence study is entrusted does well if he can accurately establish the diagnostic status of those he examines. Dynamism is inevitably allowed only secondary importance, and even where etiologic exploration can be undertaken its difficulties cannot be minimized. The offenders automatic resistance to free self-expression is bolstered by the ambiguous status of his interlocutor who, though he is a physician, is also an agent of the court. Knowing, justifiably, that what he reveals of himself may contribute to his conviction the defendant-patient has a large stake in maintaining subterfuge and in avoiding frankness. This subterfuge seldom takes the form of simulated mental disorder but with great regularity it is seen in monosyllabic, terse evasions and the paucity of what is volunteered. In addition, the effective reverberations of the crime itself as of arrest and imprisonment and the tense anticipa-

tion of an impending trial seriously handicap an objective approach to the arrested delinquent. It is not surprising, therefore, that the most fruitful analyses of criminal conduct, such as those of Zilboorg, Karpman, Lindner, et al, have been made after commitment, at a time remote from the crime and the courts.

Despite all these limitations pre-sentence study can be used to further dynamic understanding of homicidal, as of criminal, behaviour in general. What such study loses in depth and detail can be partly regained in the cross-sectional comparison it permits. As one of a series the omissions, elisions and interpretive errors of each history can be corrected by correspondence with related cases. This shuttling back and forth between the individual and the group is not as readily accomplished when fewer patients are studied in more exacting detail.

Utilizing essentially this procedure of cross-comparison the histories of a group of men who murdered women were reviewed. Few previous attempts to group adult murderers with reference to the mechanisms of their attacks have been reported. With the exception of Cassity's (1) study of two hundred murderers of both sexes, analyses of murder have largely been descriptive surveys of convicted men (2, 3, 4), detailed individual studies (5, 6, 7, 8, 9), or reviews dealing with specific diagnostic entities (10, 11). It was thought worth while therefore to survey these cases in toto, while presenting them individually. These histories are given in as complete a fashion as they were obtained. The sources of information used varied considerably. In several instances the patient's unsupported production constituted our sole knowledge. In others data were collected from family, friends, police records and social service investigation. Despite wide variations in length and content all were included for what they might contribute to the general picture.

During the five year period between January, 1936, and January, 1941, nineteen men accused of murdering women were admitted to Bellevue. They were remanded on court order for pre-sentence investigation and examination. The period of observation was undertaken either on their own requests, the plea of their attorneys, for purposes of medical care, or most often because their past behaviour suggested a significant personality disturbance. The histories of all but five of these men are interpretively presented here. Two of those omitted have been previously reported in detail by others (12, 13), and are, therefore, not included. Of the three others excluded from

this study two were so intellectually retarded and were seen so briefly that review of their histories was relatively uninforming.* The last of those omitted, a case of uxoricide with organic brain disease, will be later presented in more detailed individual study.

These fourteen men presented many obvious dissimilarities. Only in respect to their relatively underprivileged status in the community could any over-all similarity amongst them be described. Several were on relief or WPA, one a baker, four labourers, one a small entrepreneur, and four had not worked in many years. Nine of the group were immigrants to the United States and three negroes included had in their childhood been transplanted to northern urban communities from the rural south (a transition comparable in its disorganizational impact to travel across national frontiers). Two of the men were of native birth but of foreign parentage. Cultural conflict had apparently been a constant in most of their lives.

The youngest of those studied was twenty-six, the oldest sixty-two. The average of their ages was forty-three years. Several were barely literate in the language of their homeland and illiterate in English.

As a group they had averaged about five years of elementary schooling, while three of their members claimed two years of high school attendance. A lengthy history of excessive, almost chronic drinking was obtained for half of the group but intoxication at the time of the murder had occurred in only three of the attacks. Although seven of the group were found psychotic, and an equal number non-psychotic, none was considered free of significant personality aberration. Of the seven men termed psychotic two were considered schizophrenic, one had a paranoid psychosis superimposed on cerebral arteriosclerosis, one was paranoid, one suffered from an alcoholically induced hallucinatory state, one presented a paranoid psychosis plus reactive depressive features, and one a psychosis with psychopathic

* The first of these was a thirty-three year old man of borderline intelligence. He stabbed a woman whom he wanted to marry when she refused to divorce her husband. He had a history characteristic of grand-mal epilepsy originating in his tenth year.

The other murderer not included here was a twenty-three year old negro whose developmental years had been colored by extreme deprivation in all spheres. He killed his wife after accusing her of infidelity with a mutual friend. Several months before this he, his wife, and some thirty other negroes were involved in a well-publicized incident of 'mob-hysteria.' Imported from the rural south to help in the harvesting of a fruit crop; they were beaten and driven from the area by a group of aroused vigilantes. The publicity they obtained temporarily improved their fortunes. They were given money and introduced to 'big city' life. Their previously simple and stable relationship dissolved under these circumstances.

personality. Persecutory delusions were evident in all. Six of the seven men found non-psychotic were classified as psychopaths either with abnormal emotional responses or with neurotic trends. For only one of those examined was no diagnosis established though he presented evidence of a long neurotic maladjustment and marked reactively depressive characteristics at the time of hospitalization.

On the whole they were older, less thoroughly assimilated and less homogeneous in their cultural antecedents and their rationalized motivations than the 'responsible' murderer (3, 4) who kills during the course of a robbery. Like that individual they are recruited from the same working class, lumpen-proletariat segement of the population.

As would be anticipated, there was little constancy in their behaviour while under observation. Some admitted their guilt, some did not, and several repeated conflicting stories. A few were resentful, surly, uncooperative, incommunicative. In several instances the patient's behaviour was distraught and disturbed to the extent of their almost complete inapproachability. Prostrate with remorse, matter-of-fact in their offerings, eager for justification, or indifferent as to consequences, their productions varied in depth, significance, and content. As extensive an interview exploration was carried out as was feasible within the time the court allowed.

These fourteen cases tended to follow fairly consistent patterns, so much so that they could be grouped in one of three categories. For ease of reference they were tentativly classified as (1) Character Neurotics, (2) Involutionals, (3) Psychotic Regressives. These divisions are only approximately related to any uniformity in diagnosis though significant similarities within each category will be described.

* * * * * *

CHARACTER NEUROTICS

Six men were considered psychopaths, or, to use a neutral and more inclusive term, character neurotics. They form the youngest of the three groups. Despite the fact that only one of these men was found psychotic, all presented histories of long existant personality distortion. Decision as to their diagnostic status and sanity often posed an unusually difficult problem. Their past adjustments with little exception had been deviate, egocentric, occupationally unstable, laden with projectively manipulated anxieties. Four of these men had been

arrested previously and in each case for the threat or execution of assault. Three had been nomadic, four drank heavily, none had worked effectively or steadily.

Their greatest adjustment difficulties had been encountered in their relationships to women – their wives, mistresses, girl-friends. Though five of these men had been married none had stayed so for long without serious conflict. Desertion and separation after long bickering had been the fate of their marriages. None of these unions were truly intact at the time of the murder. It could not be said that these men had been generally assaultive; their aggressions had most often been manifest only in their hectic love relationships. As a group they were notable for the extremes of their affective reactiveness, the histrionic calibre of their productions, or their freedom from convincing expression of guilt, remorse, self-blame. The five men of this group who were not psychotic expressed exhibited projective trends that did not materially differ from those reencountered by the other murderers studied. However, in the extent and duration of their social and intrapersonal disability they were unlike the Involutional Group for whom an established and moderately acceptable modus vivendi was lost late. In the degree to which their motives and needs were not couched in the symbolically personal tongue and conceptual system of the Psychotic, they could be differentiated from those individuals.

(1)

PAUL RAMSEY *

Ramsey, a twenty-nine year old single man, killed his girl-friend. For ten years prior to the murder he had been considered strange by both his family and those with whom he worked. At his last employment as a hospital orderly he was termed "suspicious and seclusive." His parents thought of him as moody, unstable and melancholy, and recalled that he had "brooded" for a year. Eight years before the murder he had sporadically visited a Mental Hygiene Clinic and had been treated for an Anxiety Neurosis with Neurasthenic symptoms. He had complained of his "nerves tingling," of impotence, said he was too weak for heavy work, and uttered threats of suicide. His family had long been divided in their feelings toward him. His mother protected him from his father's reproaches and anxiously rejected the

* Identifying data such as names, dates, locations have been altered.

father's suggestion that he be committed to a mental institution. After losing his job as a hospital orderly Ramsey made no effort at finding legitimate work. He remained at home sleeping the greater part of the day. When he did wander out it was usually at night, at which time he would frequent pool-room poker games. Refusing money from his parents he evidently had a source of revenue in his card playing. What few associations he had enjoyed had been with delinquents; several years before he had been arrested in a stolen car with others and had been given a three year suspended sentence. Even his nocturnal sorties became less customary during the year before the murder. All that their neighbors noticed about him was that he dressed with punctilious neatness, that he never acknowledged their salutations and that the street noises bothered him.

Ramsey never varied in his story of the murder. He had killed his girl, he explained, because she had given him gonorrhea and "There was no use in our going on. What good were we? We were disgusted. We both had venereal disease. She kept crying that she would have to have an operation." His few meagre, blocked responses developed the "case" for that conviction. He had gone with her for three years or more and had never before been diseased; a physician had indicated that she had infected him; she had complained of pains in her side, a further proof that she was infected. Without insisting on the point, he flatly suggested that she must have been unfaithful. Why had he considered himself infected? He had lost weight, could not walk well, and had a temporary urethral discharge. He apathetically explained that he had not killed himself because his religious scruples forbade suicide.

The picture of withdrawn dejection he presented after the murder was an intensification not a radical departure from his past behaviour. He was a man of small, slender physique who interrupted his self-communion only to ask for sedatives and spent much of his time in bed. He never talked spontaneously and usually avoided the examiner's gaze in staring at the floor, his head bowed. Once or twice he met the interview with irritation and resentment to ask why he was being questioned. Most usually he replied relevantly but briefly to inquiry. He was clearly oriented. Despite his preoccupation he achieved an average rating on the Wechsler-Bellevue psychometric; this was not considered a measure of his pre-regressive capacity. No overt reaction to hallucinations was observed, though he did several times reluctantly acknowledge hearing his "sweetheart's voice." For

two or more years he admitted that strangers had stared at him on the street and that he had gone out at night to avoid recognition by his enemies. He carried a gun "a friend" had given him as a protection against the gangsters hired by his father. Somehow he considered his father responsible for all the discrimination and persecution he had known ever since he had lost his hospital job. For years he had avoided going to the movies because he was afraid of peoples eyes (his drawing of a man was dominated by a strong, prominent eye). Among the congeries of physical discomforts he described, though never doing so without being questioned, was that he sometimes felt electricity being shot into him. That Ramsey was psychotic and had been for some time could not be doubted. With some hesitancy it was decided that his was a Psychopathic Personality with Psychosis.

Reviewing his history it was learned that Ramsey was the only child of an English immigrant family. In his twelfth year he inherited his father's position in the family – the father having gone to the United States in an effort to find work, to found a home and later bring his wife and child to him. This mother's devotion to the boy found justification in his childhood illness. She assumed the guilt for his having been born an "instrument baby with a misshapen head." She worried about his constipation and medicated him for it. She felt that he was nervous and noted in consternation that he bit his lip. That the father was away pleased them both. The mother began a practice that was to continue up to the time of the murder. When Ramsey complained of anxiety, she would sleep in the same bed with him. She acknowledged this quite freely in an interview, feeling, evidently, that a mother could do no less for a beloved child. Incest, though approached so closely, had apparently never overtly occurred.

Five years of this 'marriage' ended with a summons from the father for them to join him. Ramsey hated leaving, fearing that he would again be returned to a child's place in the family. ("He didn't want to come," his mother later explained. "He cried a great deal before we left.") When he came to the United States he tried to dominate his father in minor family matters. This gave rise to constant quarreling between them. But he could still count on the consolation of his mother's presence in bed when his "nerves were bad."

Ramsey was never able to reconcile himself to sharing his mother with the father; but, far more important, the provocation of his mother's physical closeness could not be resolved. While his mother

naively and with conscious innocence could admit their intimacy, Ramsey continued explicitely to deny her attentions ever after the murder. The conflict with his father was of a superficial order, it was admitted, and broke into overt quarreling. After one such quarrel, he was discovered by the building superintendent in their gas filled apartment, the doors wide open. Toward his mother Ramsey was never to utter one word of reproach. "I respect her," was his final conscious judgment. A jealous struggle with his father underwent little delusory alteration to develop into his ideas of reference, his belief that gangsters were following him, and his need to avoid the guilt-discerning eyes of others.

His struggle with his mother was of a different order. Her solicitude was its provocation and its reason for being. We recall that when he visited the Mental Hygiene Clinic in 1932-35, his complaints were those commonly encountered in anxiety neurotics and neurasthenics: — impotence, weakness, tension, sense of distension after meals, gastro-intestinal distress, chronic constipation. Their resemblance to the symptomatology of one who practices premature withdrawal is evident. A recurrent dream accompanied by emission that Ramsey related after the murder lends support to this comparison: "A woman sits on the edge of the bed and I feel weak."

Ramsey's was an enervating struggle against a recognition of his deepest wishes for, and his strongest moral reproaches against, incest. In his relationship with his girl-friend was presented an avenue of symbolic solution. We do not know whether he ever did contract gonorrhea. His parents knew nothing of such infection until one day he surlily refused to have his mother come into his bed, and reluctantly explained that he had a venereal disease. This antedated the murder by one year. No venereal infection was physically demonstrated afterward. But what does appear clear is that the meaning and origin of this 'injury' lay in his complex and physically induced impotence. For his mother was his always present physical love object and her motherhood the ultimate deterrent.

When Ramsey killed his girl-friend in her mother's home, in her mother's bed, he physically exorcized the deepest threat to himself — the mother-mistress through, and for whom, he was castrate. And because his proximity to incest was always so close, he understood clearly the one other alternative he faced, that of actual self-castration, when he said,

> "I read up about gonorrhea. It seemed the only way to cure it was to cut out the affected parts."

Unable to kill or castrate himself he welcomed death as the inevitable consequence of his 'matricide.' This was conveyed by his, "I thought I'd kill her and I'd get the chair." The enormity of his attack against one who had to all appearances been so attached to him could be assuaged in no other way than through his own death.

(2)

JEAN GIREAU

Gireau, a forty-seven year old man of French-Canadian descent, murdered his mistress. As best as could be determined the assault had not been planned. They had begun to quarrel in the course of a night of drinking and sexual play; the violence of their disagreement grew until the unexpected had happened and he had killed her. This was the story that Gireau told initially. He later revised his account of the scene and of the circumstances, denying or acknowledging his guilt from one interview to the next. But, nevertheless, in the course of study the confusing variety of his claims merged into a coherent pattern.

Gireau was examined soon after the murder. The most striking thing about him was his appearance; he was both very short and extremely fat. His mood in its unaffected friendliness appeared out of keeping with the circumstances of the examination, but not strikingly so. He exhibited little of the depression, less of self-punishing criticism encountered in many murders. In the hospital he proved a friendly patient, and a willing volunteer for work. He was seldom loath to talk about himself, and even appeared to enjoy having an audience. Most generally he maintained an active, restless deportment about the ward. His mild euphoria deserted him only when his father or mother were mentioned, or when the subject of the murder was broached. Recollection of his mother's death was particularly painful; mere mention of it was enough to move him to tears. The fluctuations of his affect were not otherwise extreme. In his casual ward socialization he carried himself with a brusque self-satisfaction. With great contempt he denied such aberrations as delusions or hallucinations and emphasized always his strength, agility and normalcy. He was of average intelligence.

Beginning with his history it is noted that he was the third oldest son of a large immigrant French-Canadian family and that he was reared in a suburb of Boston, Massachusetts. Four children died in infancy and death later was to claim a younger brother in an accident, an older one through drinking. Gireau found himself favored by his mother and even in later life, after he had long been away from home, would find an offer of money often forthcoming from her. His father was not equally partial to him. Gireau reproached his father not only with "coldness" but with having been a cripple. To this circumstance he attributed, in one way or another, his own life-long frustrate career as a nurse. The father had been working as a construction laborer, when, in Gireau's twelfth year, he fell from a scaffold and sustained an injury which was to keep him invalided until he died many years after Gireau had left home. Gireau's first interest in nursing came from caring for his father. It was that very fact that he would later maintain had kept him from finishing his training because the father's infirmity denied him the funds to complete the course. He was eighteen when he began his training, and nineteen when he began to work as a practical, not a registered nurse.

His father's reduction to impotence allowed Gireau to enjoy the reversal of the father-son relationship, and the contrast of his own strength with his father's weakness and disability. An open recognition of his satisfaction was concealed in his denial of psychological gain from the father's accident. He could later say, in equivalent, "I didn't profit from my father's hurt. I, too, suffered from it. I was thwarted in my life career. Because he was a cripple and a poor man, my schooling was never completed." His work record as a practical nurse was to serve thereafter as a testament to his conscious self that he did not profit from seeing and tending to the ill, from his father's injury. He was a 'rolling stone' who would take up a job briefly and then leave it. He would quit after the most casual of differences with supervisors and often resolved to give up nursing because "I was sick of hospitals." But its needfulness to him was too great, and he had continued working as a nurse until he was arrested.

Gireau was living at home and working when he married. He was twenty at the time, his wife twenty-two. Dissention marked their life together. They differed for one thing in their religious affiliations. She was Protestant, Gireau an indifferent Catholic. He was persuaded to 'change' and joined the Christian Science Church. This did not help solve their difficulties for, far more disruptive of their married life

was her quarreling with his mother. This finally resulted in their being forced to move away from his parents.

He began drinking heavily during his two years of marriage. One day in 1917 with a group of eight bar-room acquaintances he abruptly left home, went to Canada and enlisted in the Canadian Army. His wife was pregnant at the time. In this escape from his wife into the masculine society of the bar-room and the army was foreshadowed Gireau's later never to be completed project. His wife had "nagged" him, and dominated him, and was soon to saddle him with the support of a child. She had forced a separation from his family and, more particularly, his mother. He had suffered a conversion of faith through her. The precarious sense of potency he enjoyed in caring for the ill was nullified by the impositions she made upon him.

His army service was an undramatic period, but it was to remain a highwater mark the remainder of his life. As a soldier he felt that he had demonstrated his sufficient masculinity. His return home three years after he had left reawakened the old problems.

> "I came home in 1919 and I went back to my mother. I tried to live with my wife again but it was impossible. She had been out with too many men. She told me it herself and her friends told me. I wasn't jealous but I would not live with a woman that wouldn't be true. If I'm not good enough for her why should she be good for someone else? I was true to her when I was on the other side. Why shouldn't she be true to me?"

Gireau left his wife and his then four year old son within a few months after he had come home. He was never to see either one of them again and never to contribute to their support. He wasn't interested in his son, he illogically explained later, because "He had chosen to stick to her," although the boy was obviously too young to have decided this. The relief with which he escaped his wife and child was unmistakable.

During the time that elapsed between his desertion and his 'second marriage,' Gireau avoided the hazard of a stable domestic relationship. The only women he allowed himself to know were prostitutes. Most of his contacts were his bar-room acquaintances and men patients encountered in his work. (He had once been dismissed from a hospital when he refused to work on a women's ward.)

Gireau's drinking history was allied to a curious story of persecution by "bootleggers." He had begun drinking heavily as a relief from the overwhelming anxieties of married life. During the early years of prohibition Gireau, while drinking, himself, acted as informer for the Federal authorties in his home town through spotting the speakeasies and bootleggers. His aim: "To help cure my brother and earn some money." Characteristically he chose to "cure" his brother who was a chronic inebriate but made no effort at abstaining himself. Several years after he had ceased working as an informer, he first noticed that he was being followed. He had lived away from his home town for many years but returned when his mother died in order to attend her funeral. Overwhelmed by grief at her passing, he noticed while at the cemetery a "man in gray" attracting his attention by taking the cover off a garbage can and throwing the contents into the street. This persecution was later resumed when he returned to New York City. The man in the gray suit would make his presence known by throwing an empty box in the street, by gritting his teeth, or by shouting "Wait a minuit!" when Gireau descended into a subway. Gireau "knew" that the stranger who pestered him was one of his old bootlegger enemies who "still had a grudge" against him. He assumed they were anxious to entice him back to his home town and "take him for a ride" but he never asked for police protection. He was not afraid of that man, or anyone else, he grandiloquently proclaimed.

> "I'm not afraid of a man of my size. All I was waiting for was for him to strike. I was never scared of anything. It annoyed me but I was never afraid. When a man touches me, that is time for me to act."

Oddly enough most of these cryptic threats occurred when he was talking with "some woman" on the streets, when he was accosting or being solicited by a prostitute. These incidents happened most often when he met his "mistress" outside. More immediate threats had occurred at home. Several months before the murder he found his window broken. He took the precaution of closing it securely with three locks and a chain but still did not bother to carry a weapon or ask for protection. He stumbled across the last of these overt warnings:

> "A few weeks before this trouble of mine started, I found several sticks of wood at the door of my apartment. I didn't pay much attention to it. Probably the same man who was trying to get me in a dark hallway and let me have it over the head."

Of his actual sexual development we learned little directly, much by inference. His personality was literally organized for defense against any recognition of sexual incapacity. His assertions of normalcy were belligerently offered and associated with an assertive twirl of his mustache. He insisted that he was "quite normal;" he admitted that he began masturbation when he was fifteen; and allowed that since his eighteenth year he had been sexually promiscuous. Equally emphatic were his assertions that "never had any trouble" and that he didn't feel guilty, et cetera. He passed off his incessant nail biting as a "hobby" just as he considered his obesity only the natural result of his "good appetite." He continued membership in the Christian Science Church even after breaking with his wife. Ideologically it too served an ego strengthening device over his inner anxiety.

For a year before the murder Gireau had been "married" to Dolly, a twenty-four year old prostitute. She would visit him two or three times a week. He paid her for her attentions but all the while resented her using him as a "sucker." The bond between them was well established. She would often stay to help him with his house-keeping as if she were truly at home.

In spite of his obesity and his forty-seven years (either of which were obviously disqualifying) Gireau often talked of joining the Canadian Army. Cherishing with pride his record of service in the first World War and emphatically proud of his virility, he seriously spoke of volunteering, but never risked the hurt of rejection by going ahead with his plans. Dolly would, he later said, "get under my skin" by taunting him with being 'too fat to go." The anger thus aroused filtered into a succession of quarrels.

They had quarreled about other matters too and not least of all Gireau's expensive pills. He had been using thyroid to "keep his weight down" and also as an aphrodisiac. He would resort to them after an attempted intercourse, in preparation for further sexual efforts, but Dolly would "eat them like candy." They had frequent spats over the pills.

With his trial impending, Gireau had good reason for skirting away from a straight-forward account of that night. He uneasily shifted his story, unable to focus on one that would sound plausible. His claims extended from saying, "I was far away from there riding in an auto when it happened," to a detailed and complete avowal of the murder. What had occurred could, nevertheless, be put in perspective.

That night did not particularly differ at first from many they had spent together. They had long been wrangling about the war. Gireau's sympathies were assertively pro-British, opinions that Dolly did not share. Into their discussion was woven their old disagreement about his going to Canada and her taunts about his obesity. They drank perhaps somewhat more heavily than was their wont. Gireau later talked of that night as one of the four times in his life that he had become thoroughly drunk; the times before that he recalled were on the event of his father's funeral, his iceman's marriage, his mother's death. They attempted intercourse and then,

> "We began arguing about the thyroid pills. I told her to close the medicine cabinet. I said, 'Don't take any more of them.' I said, 'One is all right' but she took three or four. They pepped her up sexually."

In her bitter annoyance at being thwarted, Dolly came at him with a knife, so ran Gireau's self-protective narrative. Pleading amnesia for what happened then, he let it be understood that he might have hurt her in attempting to protect himself, though actually the murdered woman had been repeatedly and violently struck with an ax.

What followed then was a nightmarish effort at concealment. He had undressed her, washed her body and her clothes, crudely mopped up the bedroom floor, then changed his own garments. He afterwards had left the apartment and stopped at several bars drinking at each. Some hours later he returned home, "discovered" the body and notified the police. The artifices of his concealment were quickly penetrated; his claim that he had found her so and his supposition that she must have been attacked by a marauder ("It's a bad neighborhood where anything could happen") could not bear investigation.

It seems reasonably certain that Gireau had protected himself against Dolly; if not her actual attack, then what she and her appropriation of his pills had signified. She had threatened to deplete his sexual resources while increasing her own in her annexing of the pills. Gireau's assaultiveness, we retort, speaks for the massive disturbance that act provoked in him. These personality characteristics that had made him so liable to this threat can be discerned in the information we have. Most apparent was Gireau's basic masculine insecurity. His brash assertions of potency and strength were contraposed to an uneasy awareness of his "fear of sex." His desertion of his wife, his later avoidance of matrimony, his distaste for woman patients reveal the extent to which

he had to escape proximity to women. This grew out of the sex-denying dependency he had enjoyed with his mother, a safe relationship to which he reverted when he left his wife. His attachment to his mother was reflected in his oral-erotic character structure, his excessive eating, his drinking, his frequent solicitations of her help, his easy sociability in male society.

His delusion of persecution by his bootlegger enemies transparently symbolized the repugnance he felt toward women. The acts he ascribed to the man in grey were dramatized and parenthetical comments of this attitude. The man in grey was his spokesman when garbage was spilled at his mother's funeral or when an empty box was rattled as he spoke to his prostitute mistress in the streets. These acts began at his mother's death, when he no longer found it necessary to repress her for her sexual and, therefore, for him corrupt behaviour. He had unconsciously drawn a parallel between his mother and the prostitutes with whom he afterward consorted as was indicated by the association of these acts with his addresses to women. In the months before the murder the threats came closer to home, his enemies left sticks in the closet and broke in his window. The conversion from an unconscious aside, to an actual warning paralleled his increasing restiveness in the affair with his mistress. It is not too far-fetched to see in the sticks left in his closet, window broken, a symbolic expression of the paternal sexual punishment awaiting him for his sexual conduct. This interpretation is also suggested by the many latest homosexual traits Gireau displayed.

Gireau's need to avoid the issue of his sexual role was balanced by an ego demand that he prove himself potent as a male. Presumably this latter could be traced to his choice of vocation and his relationship to his father. Nursing his crippled father, he could enjoy the reversal of their positions; he found himself by contrast as vigorous and energetic. At the same time he had to insist repeatedly that he found work an intolerable burden, and he had to declaim consciously its unconscious utility for him.

Gireau's drive to affirm that he was heterosexually competent gradually drew him into relationships that violated his subconscious proscription against sex. He found himself once again attached to a woman and experienced repercussions of his repressed anxiety. He had attempted to compartmentalize his interest in women to their sexual function by patronizing prostitutes. Yet in his attitude toward them were united a conscious respect and an unconscious disgust.

This was revealed when, speaking about his mistress, he righteously defended her against his own accusations: "I don't care how low a woman is, she's still a woman to me and I respect her." His inner block to heterosexuality had to be constantly overcome. To do so he resorted to drinking and thyroid as a supposed physiologic reinforcement. Without these he could not sexually perform according to his ego-expectations.

The events that led to the murder can be assessed in the light of these conflicting drives. Gireau achieved his major satisfactions through oral infantile devices, through eating and drinking. He also resolved his anxieties by this channel; thus the revulsion he felt toward intercourse was compromised by ingestion of these two drugs. With one he narcotized himself against his revulsion toward women; with the other he became strong enough to do his ego's will. Quite apparently thyroid's value to him was psychologic, not physiologic. Like Popeye, the comic-strip character who is able to perform muscular prodigies after he eats spinach, Gireau became masculine and potent after he had swallowed his pills. The comparison is apropos; Popeye's explicit appeal is to children and his technique of gaining strength uses these oral fantasies. Gireau's libidinal organization was, in fact, infantile and pregenital.

In psycho-analytic terminology Gireau's ego coerced him into behaviour incongenial to his id drives and his super-ego requirements. Fixed at an instinctual oral level, he was forced to heterosexual efforts. He tried to keep the pills out of his mistress' hands because "they pepped her up," or translated because she became too demanding. Though he was able to compel himself to token efforts at intercourse, it was not easy for him to muster the repressive energy this required. Finally when he was forced to repeat an act he found inwardly abhorrent his tension mounted to the breaking point.

Beginning in his earliest childhood Gireau had chewed his nails as in daily acting out his castration fears, or more exactly, his fears of oral deprivation. The appropriation of his pills reawakened him to an anxious awareness of that fear and precipitated the homicide. Through killing his mistress Gireau symbolically accomplished several things. He temporarily nullified his mounting fear of impotence, at the same time destroyed that woman who had provoked him to forbidden sexual behaviour, and finally protected the fiction of his virility.

(3)

ARNO VAZEK

Vazek was twenty-nine years of age when he stabbed and killed his girl friend. His accusations against her were those of a disdained and rejected lover.

> "I felt she was using me for a sucker. She gave me the clap and was going around with someone else even though I was showing her attention. She was making a fool of me."

Though he almost cringed with meekness he showed no signs of remorse, but considered that his homicide had been justified and the girl's death deserved. While under observation he was cooperative, polite and alert. He demonstrated no psychotic preoccupations, no disturbances in orientation or general intelligence. His Goodenough drawing was described by an observer as "awkward and insipid," personality traits he shared with the sketch. Eight years before this Vazek had been arrested on a charge that anticipated the murder. He had gone out with a girl, two years his junior, for several months. One night, after he had taken her home, she announced that "She didn't want to see me anymore. We had a struggle in the hallway. I was fooling around and I told her I would strike her with an ice pick I used in my work. Accidentally the pick struck her on the shoulder." He was arrested and later released on a suspended sentence.

Vazek's parents had come from the Slovak region of the old Austria-Hungarian Empire. They seem to have met and married in New York City. Thereafter they had settled in a slum section of the city, subsisting on the father's uncertain wages. Vazek senior drank heavily, worked irregularly, and often the Vazek's applied to charitable organizations for aid. They had three children of whom this subject was second oldest. When he was three or so, his mother had her first attack of cardiac decompensation. During the next few years as she grew progressively more edematous, she required repeated hospitalization. The father, though he was not working, had no one to care for his three sons. They were placed as destitute children in a Home. A month after this placement the mother died. Young as he was at the time and few as were his later recollections of his mother, Vazek always thought of her as wonderfully kind.

> "She was nice to us. I danced with her. She was big and heavy with her legs swollen up."

The mother died in March; by October the father had remarried and brought his children home with him. Everything seemed to change for the worse then for Vazek and his brothers. They thought of running away when they saw their mother buried, before they had a step-mother. Afterwards, the father became even more harsh. "He beat us so hard we had to cry out loud to get him to stop." Vazek recalled many such chastisements. Once he called his step-mother a name, once he stole a dollar from her; each time he was vigorously beaten. He never forgot the hurt of these, just as he never forgot how much he hated his step-mother, and how one time he thought of hitting her with a hot poker when she came at him. The step-mother died after three years of the marriage, but Vazek's father did not marry again. One incident in the history of this time demonstrates how disintegrated the family was and how rejected the children. Vazek was sent to the City Hospital with scabies. He was left there three months, for much longer than was necessary because no one came to take him home.

He completed a year and a half of high school without difficulty, and then, after an argument with his father, ran away from home. He soon returned but after this time he never lived steadily with his family. When he was home he drank heavily, refused to contribute money to the family, and quarreled with both his brothers and his father, especially the latter. ("He kept bringing up things when I was a kid.") He worked irregularly at unskilled jobs that paid little and required equally little of him. The only member of his family that won any of his affection was his half-sister. After his first arrest he violated his probation, left New York, and "bummed around" the country for over a year. When he did not stay at home he would remain at either a shelter for homeless boys, at rooming houses, or, during the last four years, with his girl's family.

In most major facets of his personality, Vazek experienced severe neurotic inhibition. He often complained of feeling tired, considered that he had been unfairly treated by his family and brooded over the wrong done him. He was shy, blushed when embarrassed, was enuretic and a stutterer until his early teens. Unable to socialize comfortably he preferred to remain by himself and read considerably. His good vocabulary confirmed the extent of his reading and his solitary immersion in action fiction. He felt self-conscious on the street, thinking that his short stature made him oddly conspicuous. Chronically de-

pressed, he several times thought of suicide. Once, when his father refused him money to hire a tuxedo, he swallowed the contents of a bottle of iodine. He was eighteen at that time. He insisted on his low deficiencies: "I'd stay on a job till I got tired and quit. I had no ambition."

Numerous injuries dotted his past history. Significantly, most of these were sustained during fights in which attempting to hurt his opponent, he succeeded in injuring only himself; just as later in quarreling with several street acquaintances about a girl he tried to throw a piece of glass at them but cut himself instead. In still another fight with a boy he tripped over the curb and broke his arm. A herniorrhaphy operation and a laceration needing sutures added to his store of self-sustained wounds. A dream he related typified his need to turn his aggression against men in assault aimed at himself:

> "I stabbed this fellow and I was walking away but instead of him being wounded I had a cut in my side.

Consciously afraid of knives he, nevertheless, generally owned one. Possessed of a powerful impulse to vent his aggression he avoided situations provocative of conflict, situations, in short, that might lower the flood gates to a free expression of his sadomasochistic urges.

The same timidity and insecurity that attended Vazek's general social adjustment characterized his sexual history. He described himself as "mostly backward until I was twenty." Apprehensive in approaching women, he had his initial heterosexual experience when he was 21; his partner, the girl, he later injured with an ice-pick. He had begun masturbating three years before that affair, when he was eighteen. This is to be regarded as illustrative of his strong inhibitions in view of the fact that he lived in an area where early adolescent sexual experiences are the rule, and abstinence the exception. His subjective attitudes toward sex were, unfortunately, not directly explored.

The murdered girl was nineteen years old when she died. They had begun going together four years before, and had been sexually intimate from the beginning, he stated. Vazek's guilt over the wide discrepancy in their ages was apparent in his later justification that "She was fully developed." He lived much of that time at her home and was half willingly accepted by her family. Her home was as culturally and socially disorganized as was his own. Her father had deserted

the family and her sister was mothering an illegitimate child. Throughout their relationship Vazek tormented himself with jealous suspicions of her fidelity. A few months before the murder he experienced the threat of dismissal although they had been formally engaged for two years. The girl's mother, a big woman physically like Vazek's mother (he suggested their likeness), wanted a son-in-law with money. Then two crucial happenings increased the anxiety and resentment Vazek felt and precipitated to murder. The girl became "interested in a fellow and was going to marry him" and Vazek developed symptoms of gonorrhea. Since as he stated "She had it two months before I did," he felt that she had already jilted him in favor of his rival, especially as she had been refusing him intercourse for several months. The total impact of her sexual rejection of him was inversely proportionate to the inhibited nature of their intimacies. During the period that he was accepted, they would have intercourse as infrequently as once every two months. An abortion to which they had both agreed a year before had previously signalled her rejection of him.

In his childhood Vazek had run the whole gamut of neurotic signs, which had left him as an adult, seclusive, self-deprecatory, awkward and chronically dissatisfied. He was unable to maintain any stable relationship to his family, his work or himself. If we use the diagnosis of Psychopathic Personality as a descriptive term, a synonym for the asocial personality, we may consider him psychopathic. Whether this diagnosis is apposite and whether he could more properly be considered neurotic is outside our present interests in the suggested mechanisms of his attack.

Within Vazek's anxious and unhappy adjustment to his world had been two unreconciled and apparently opposed needs. He had to fight back against men, whose hostility and resentment he invited, while palliating their anger by self-injury and compliant meekness. This derived from an ancient conflict with his father. Complementary to this was a repetitive searching out of the major traumatic experience of his childhood, the loss of the support, the comfort and protection of his mother. His conscious love of his mother disguised the bitterness of his unexpressed reproach for leaving him, by her death, to the mercies of a drunken father and a hostile step-mother. Examined superficially Vazek's history suggests that he had repeatedly striven to recreate an idealized mother-son relationship, dimly recalled from his first five or six years, but that he felt himself frustrated in this by the women to whom he turned for succor and acceptance. So viewed, the antagonism

his step-mother aroused initiated those disorganized experiences in which he encountered rejection by women to whom he had turned. Theoretically these experiences were the more traumatic because he recalled the idyllic relationship he had enjoyed with his mother. However, several factors make it more plausible that his repeated rebuffs by women were unconsciously prepared by him; in other words that the search for a protective successor to his mother was screen, in itself a disguise. For one, Vazek's ready recourse to revenge (the hot poker incident, the two stabbings) indicate how close to expression was his hostility to the women he had known. His animus against women was equally apparent in the nature of his appeal to them. His half-sister, explaining his affection for him, said "He always seemed so unhappy. He seemed to need me." His very supplicant, shy manner was unconsciously calculated to win pity and sympathy and to hold in check the latent aggression that was rampant in his unconscious.

The fascination that knives held for Vazek, his resort to their use when he was rebuffed and his sexual inhibitions appear to have a common origin. There is warrant for believing that he unconsciously associated intercourse with sadistic injury to the woman. This would explain his reluctance to press his sexual demands while he was accepted. In order to maintain a woman's interest and sympathetic attention he had to repress his hostility toward them, his sexual vengefulness. The same factor was operative in the release of his aggression following his rejection or the injury of venereal disease.

While Vazek was under observation his father, drunk and unaffected by his son's plight, presented himself for interview. One point he recalled is particularly relevant in this connection. He described how his first wife, during the four or five years she was ill at home and hospital, had been treated by venesection. It seems probable that these scenes were indelibly impressed on the child who witnessed them. His mother's death, her having been cut for venesection, his repeated self-injury and his two assaults formed an interdependent consecutive pattern. In those injuries that recoiled back against himself, Vazek both identified himself with his deceased mother and punished himself in his guilty-reproachful identification. By "cutting" his girl he symbolically re-enacted his mother's death and invited his own, a prospect he spoke of with unusual calm for, in having killed his girl he had psychologically accomplished his own often planned suicide.

Thus several mutually supportive trends had united to permit Vazek's homicidal attack. His controlled hostility was released by the

ego hurt of dismissal in favor of a better endowed rival, ("He had more money"), at a time when his unconscious sexual-sadistic fantasies had rebounded against himself as an attack of gonorrhea. That these had both occurred under the aegis of someone he identified with his mother, his proposed mother-in-law, added further provocation that made his crime possible, and one is tempted to add, almost inevitable.

(4)

OLIN GREEN

In case after case of marital discord, 'in-law' especially 'mother-in-law trouble' is given as a causative factor. Seldom does this almost traditional antagonism mature into murder. In one of this series such did happen.

The murdered was a thirty-four year old negro of violent rages and lurid fantasies. Physical aggression against others formed a repetitive pattern in his expressive life. He had often hit his wife when she delayed in obeying his commands. In his fourteenth year, while hunting rabbits with a friend, he shot and killed this boy 'accidently' so the court termed it, when he was exonerated. A periodic drinker, Green had not infrequently been arrested for that diffuse expression of rebellious and unchannelized aggression that the courts loosely categorize as disorderly conduct.

Green did not deny that he had killed his mother-in-law but he did oscillate between melodramatic tirades of his justification and excited expressions of remorse. He elaborated on every point, told his story with great fervor, sitting still despite his agitated expression and his illustrative gesticulation. The flow of his communications was often difficult to interrupt in its fervent and lachrymose discursiveness. Though he spoke fluently, his speech was often dysarthric and slurred. He never was other than clearly oriented, expressed himself well and with relative coherence. Neurologic examination revealed definite signs of an evidently long arrested central nervous system damage. He had slightly eccentric and irregular pupils, deep reflexes somewhat more active on the left and a suggestively ataxic walk. He poorly executed movements requiring fine coordination, had a fine intention tremor and presented evidence of a variable adiadochokinesis, bilaterally. Physical and serologic examination was otherwise non-contributory. Psychometric examination revealed that he was of high average endowment, was possessed of superior verbal skills, and average perform-

ance capacities. This discrepancy between his verbal and performance rating was in part due to his motor difficulties.

The woof of his projective and involved self-justifications was woven into the warp of vividly recalled childhood incidents. Seen through his eyes, his life had been spent in an unequal struggle against the callousness, indifference, and even cruelty of others.

Green's family had been a large one of eight children of whom only five survived into maturity. Reared in a small southern community they enjoyed some stability on a lower middle class footing. Although Green's recollections of his parents and his siblings were colored with sentimental insistence on their mutual congeniality, the composite history of that time discloses that just the opposite was true, that conflict between himself, his siblings and his parents was the rule. At the same time, although he was the next to the youngest of the children, he consciously regarded himself as their nurse and guardian.

Two circumstances that were to be closely identified occurred between his fifth and his seventh years. He had generalized convulsions when he was five or six and his father died when he was seven. After the convulsions he developed an incoordinate gait and a general muscular imbalance that could be demonstrated some thirty years later. He would move jerkily and would lose his balance. His mother took to protecting and fondling him because, as he stated, "I was wasted away all over." In his helplessness he identified himself with small and helpless children or animals. An ever present reality was the occasion when a pet chicken was sacrificed for victuals. "My sister killed the chicken and it was served for the meal. We ate it and I got sick and vomited. They laughed at me and I wanted revenge." In his attachment to children an all-embracing protective love was balanced by a fantasied and grotesque expectation of their injury.

> "I was wild about my sister's kids. I was six and one niece's name was Bessie. I was crazy about her. I used to watch her, care for her, kiss her, and rock her. When I was eight I saw a cat in my niece's bed. The cat had its feet over the child's head and its mouth on the baby's, squirming her body. It looked as though the cat was eating the baby but Mom said she was sucking the milk from the stomach."

Elaborated out of the mystic folk legends of vampires and werewolves Green's sado-masochistic fantasies incorporated vivid elements

of sexual assaults. As we shall see these played a prominent role in the fugue state that led to the murder.

> "I had always a fear of a dog trying to have intercourse with a baby. Dogs can do. I've seen one. I loved animals but not cats. I dreamed I killed a dog who was in a carriage copulating with my child."

So strong and demanding were his loves and fears, affections and antipathies, that either one or the other was in its turn total and exclusive. Thus, describing how his father's death prostrated him, he dwelt on how he felt "a rock inside" him and how he kissed his father's dead body.

His childhood was that of many seclusive, crippled youngsters. Self-conscious over his scrawled handwriting and his incoordinate gait, he withdrew from social situations where he might be conspicuous. Tormented and mocked by other children, he said of himself, "I kept my own counsel. I was self-contained and studious as a kid and always tender to animals. There was so much duplicity. When I asked my mother questions she didn't tell me the truth." This early trauma of the child enquiring about sex and being deceived was reinforced by his alienation from his siblings and their scorn of him. But, while the grievances he felt against his siblings were openly acknowledged, the resentment he harbored against his mother was generalized, disguised and disavowed. It was expressed in his 'fear' that she might die, in his castigation of her duplicity and in his conviction that she had neglected him. He punished himself in anticipating his mother's death by his unhappy belief that he would be placed in a home were she to die.

We do not know when the family moved from the south to New York City, when he left home and what precipitated his leaving. He indicated that during his late teens, after he had completed two years of high school, he struck out for himself. Afterwards he drifted about considerably. He lived in several of the northern states, remained for awhile in Mexico, and once shipped out for several months on a sailing vessel. Most of his jobs were transitory affairs as hand-man, repairman, gardener, porter, chauffeur, hospital orderly, et cetera. He had also been on WPA and relief in the long gaps between regular jobs.

His overt sexual history was an interesting derivative of his sado-masochistic self-identification with children. We surmise that his

mother was rigid and puritanical in her attitude toward sex. He recalled beatings he had received at her hands when found masturbating. Her punishment of him and her "duplicity" about sex were additional elements that sprouted into his lurid fantasies. From his thirteenth year on he had enjoyed a superficially uncomplicated and rather unstrained sexual career. Twice before his marriage he had "serious" marital intentions. In the first instance, he was in his late teens, the girl became pregnant by him but, "Her aunt, like my mother-in-law" did not let him see her. Though this did not deter him, the girl's aborting herself did. He considered this a violation of his deepest wishes and stopped seeing her. Later the same situation was to recur, in attachments whose meaning was conditional on the womans' willingness and ability to have a child. The first of these was "a love affair with a girl in Mexico. I grew to love her till I found out she couldn't have children." Her sterility proved that she did not love him and he consequently left her. When he met his wife, a year later, and seven years before the murder, he made the same demand. "I had to know whether she could have a child before I would marry." His wife-to-be submitted to his overtures despite her parent's protests and became pregnant before the legal ceremony. His extreme ambivalency toward her pregnancy was expressed in his anxious phone calls home during that period, ostensibly to reassure himself that no accident had occurred and that she was "safe."

The struggle between Green and his wife and her parents was unremitting. It began in that premature pregnancy and continued with little interruption for seven years. He projectively ascribed his mother-in-law's antagonism to these initial circumstances.

> "They were full of society talk, but they made my wife work in their beauty parlor. They dominated her and ridiculed her because she was pregnant. They forced her to work until the ninth month."

He repeated the colorful details of their accusations against him:

> "They called me a monkey-chaser and a pimp; the biggest liar in the world; a paralytic freak; an imbecile. They made fun of the way I talked and called me bandy-legged. They threatened to kill me or the children."

During the first year of their marriage they lived with her parents. Green's assaultive and inebriated rages, his failure to hold jobs, his paranoid jealousy, never abated. Green's accusations were not without

some real foundation. Others spoke of his mother-in-law as "uppity" and said she had a 'sharp tongue' but what he structuralized out of her taunts was delusory. He spoke of having been "voodooed" and felt that his wife or her mother had scattered poison in his food at least once. He never assumed any responsibility for his plight, his wife's rejection, his job instability, his drinking. In his social callousness he could be considered psychopathic.

After three and a half years of married life Green persuaded his wife to come with him to California. Even though the breadth of the continent separated him from his in-laws he held that their persecution of him continued in their letters. And, although he had taken his wife and children away from those who disputed his possession of them, he now encountered the threat of sharing her with other men:

> "I was afraid of her getting raped. She's so submissive and unworldly. I was jealous. I didn't want her picked up and danced with by anyone."

In his jealousy he struck her and repeatedly threatened to shoot her. A year after they had gone to California, a rupture took place. Bess returned to her folks. Green's reaction to this separation was typically tempestuous,

> "I went raving. I drank, screamed, fell down, hollered, and ran around looking for her."

About nine months elapsed before he followed her back to New York City. Surprisingly enough he was once again accepted back into her family and back, more exactly, into their home. "We had to live with them cause I couldn't find work." Their wrangling continued from where it had left off. Six months later, his wife, tired of abuse, had him haled into court. He was given a thirty day sentence and warned away from his wife and children. For a year and a half after this and before the murder he was alternately importunate and threatening in his entreaties. Always, he felt, it was the mother-in-law who prevented him from seeing his family, although his wife was equally determined to keep him away.

Over the three year period that represented the low ebb of his marital fortunes, Green's repressed violence found multiple avenues of physical expression. As if by magnifying the extent to which he had suffered he could gain forgiveness for his crime, he dwelt on them at length; his palpitations, his dizzy spells, his frightening, "foretelling"

dreams of being killed by his wife or, more often, of killing her and his children. One such prophetic dream of a year before their separation portrayed his unconsciously created and deeply feared dilemma, "I dreamed our house was rebuilt and I couldn't get into it." Three years of constant headaches, of 'spots before his eyes,' of repeated vomiting, of uncontrollable bouts of crying, of suicidal ideas, of suffocating spells, were the described aftermath of his wife's "desertion."

The turmoil he experienced during this time was confirmed by others. A friend described him stopping on the street and bursting into tears on seeing a resemblance to his own youngsters in two strange children. His sister recollected that "All he could talk about was his wife and the kids." The neighbors remarked on the violence of his tempers. Throughout this period he worked irregularly, and drank steadily.

For the events that cataclysmically grew into the murder we have his testimony; a spontaneous, melodramatic lamentation, recorded several days after the crime:

> "It was an awful thing, the whole business. My mother-in-law is dead. My God! (sobbing). My wife and I were separated for a year and a half. From time to time I tried to make a reconciliation. I've always been told by my mother-in-law what to do and I never saw my wife alone all that time. I'm devoted to my wife and children, to anything like a child that's small and helpless. I never could get a word with my wife but my mother-in-law would tell me to go to hell."

Next recalling how he met his wife prior to their separation when she handed him the court writ restraining his visits he remembered her mentioning that she could send the children to a free fresh air camp.

> "I had my doubts. I told her of an awful dream I had. Mother said she was going to send the kids to a home. She said she was going to put the two little imbeciles away. She didn't want me or my children. I dreamed the kids were swimming away from me. I got the big one back. The water turned red. I couldn't get the little one. As I brought them in she, the youngest, fell apart like blood." (Weeping.)

Reverting to a subsequent meeting with his wife he tells of seeing her once and giving her all his money, his last wages from the WPA.

> "And once I fell asleep in the library. I woke up screaming. I dreamed my kid was calling to me, 'Daddy, they're taking me away' and I felt so sad I didn't know what to do. That night I went home. There was no mail. I slept and dreamed I hit her father with a stick and he fell out of the window. And then I fell asleep again and dreamed I was walking in the street and saw her mother with a big basket. She gave me a funny answer. I saw she was spilling blood from the basket, just pouring it out. It looked like fresh meat and it had lots of flies. I looked in the basket. She said it was pork, but it was the hands and arms and legs of the children." (Weeps and grits his teeth.) And black hair and little eyes. My baby's got big eyes. I saw the eyes open. She said, 'Daddy, look, I can't walk because I ain't got no legs.' Mother said, 'I killed the sons-of-a-bitch.' I woke up sweating and trembling."

The sequence of his story was disturbed and events many days apart were apparently telescoped together. He decided to "see about the kids." He again had dreamed that his children were in danger and "my dreams foretell things."

> "It was a quarter to five A. M. It seemed like I just had to go over to the house where they were. It was like a call. I could still hear them calling me. I could hear Bess call, 'Olin, Olin' and I knew she needed me."

Taking a knife ("to kill myself if they didn't let me in") he wrote a letter to his wife: "I'm putting a knife in my pocket and measuring it against my throat and heart." He described his progress through the streets to their house as metaphorically:

> "Walking, running; I couldn't stop. I went to the church doors but they were locked and I began to holler. People watched me. I was two blocks from the house and felt like vomiting and urinating. I went to the house and rang the bell figuring 'I'll go on back to stab myself.' That's what I was going to do. God knows it."

His father-in-law and mother-in-law came to the door. The old recriminations began. They accused him of indifference to his family, and his father-in-law particularly resented Green's accusation that they were breaking up his family.

> "She said, 'Tommyrot. I told Bess to take her brats and walk out on the middle of the ocean or else you can take them and jump in the subway.' At that I felt like I was going to vomit. To be truthful I felt that all the time. I used to get treated for my stomach. I started to sweating and shaking. It seemed like a big ball or a bubble (like afterbirth when I worked in a hospital, he later added) came right in my face and I remember striking at Pop and then I don't remember anything as God is my witness. They told me what I did at the precinct. That I vomited after and had a knife in my hand and blood on my hand and shirt. Jesus, God, protect my babies. I first thought I cut myself. Then I saw Pop with blood and Mom curled on the floor with a cut on her head. I can't remember. Things would come in waves and sheets."

Out of the excitement of these last few moments he later recovered a memory of his wife assuring him that "I'm a wife to the end," and his gentle solicitude for his children. Handcuffed and in restraints at the police station afterward, he violently tossed himself about, gritted his teeth, bit his tongue, and shouted how he hated his mother-in-law and could "cut her heart out and eat it."

In his extreme emotional lability, his egocentricity, the shallowness of his social awareness, Green's entire life pattern could be termed that of psychopathic personality. His histrionic emotional display, much like the elaborate productions of the schizophrenic, was both most direct of confessions and most consummate of self-deceptions. His anguish-also like those affects of irritation or fear shown by the schizophrenic, was not infectious and did not command appreciative empathy. His adjustment to the world was paranoid, that of a man who feels himself always the victim of other's mistreatment. He saw himself as a well-intentioned, kindly, devoted father and rejected son-husband.

While Green was categorized as having a Psychopathic Personality with Neurotic trends, the organic 'etiology' of his disorder could be recognized. The convulsions of his childhood were probably symptomatic of an encephalitis, of which the late neurologic findings were permanent residua. To the old cortical damage can be almost directly attributed several aspects of his behaviour. His epileptic-like rages, were typical of these. The movement-filled, vivid to the point of hallucinatory, fantasies he entertained is not infrequently encountered in the

encephalitic. Lastly, the obsessive, compulsive character of his thinking is also indicative of such brain injury. (15) This ruminative thinking was exemplified in ways other than were previously described. When excited, he related that either "Arithmetic problems come to my mind and I have to solve them, otherwise I cannot concentrate," or, that he would have to translate spoken works in Spanish, a language he apparently knew well.

The direct expression of this old encephalitis was multiplied many times for him in its meaning as a physical handicap. From childhood, his dysarthria, his poor motor control, his somewhat incoordinate gait had been a barrier to ready socialization. These difficultes exacerbated an already intense rivalry with these siblings and his contemporaries, but at the same time forced him to dissimulate his hatred for them. His solicitude was such a screen.

An intensely ambivalent attachment to his mother became apparent at this period. On one hand she had "fondled" and protected him. Outweighing his gratitude for this, however, was his unequivocal feeling that she had neglected him, that she had allowed him to become a "paralytic freak."* His unconscious hostility to her was reinforced when he encountered her "duplicity" about sex. Since she had been, to all appearances, affectionate to him he concealed his criticisms of her. They were vented symbolically in his expectation of her death and in his devotion to his siblings. He became a "better mother" to them than she had been. He replaced her and adopted toward children the mixed sado-masochistic attitudes he projectively perceived in her treatment of him.

A further aspect of his psycho-sexual attitudes was revealed in his fantasies, his dreams and his speculations about bestiality toward children. Intercourse with a woman carried the implication of venting destruction upon them and, in their becoming pregnant, of establishing his prowess, his potency. How strong were his feelings of inadequacy can be surmised from his jealousies, his projected calumnies of himself, and the rapidity with which any suspicion of insult pushed him to self-defense.

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* It is common experience that, as with Green, the once overly protected child, hurt in any way, often ascribes to the benign and previously omnipotent parent the blame for that hurt. Injury done by an evidently hostile parent is often less traumatic than such injuries of omission.

Green was compelled to recreate his childhood injury and conflict within his marriage. He was forced to reinact the experiences that had formed his late life in patterns of wild vengefulness. His drinking, his attacks on his wife, his inability to find and hold work all combined to permit his wife and her mother to dismiss him. His rejection, his being "locked out of the rebuilt house" vitalized the "recollection" of having been deceived and injured by his mother. Since his relationship with his wife and her mother had been formulated in terms of their relations to his children; it was "their" hostility toward the children that crystallized his conflict. His mother-in-law had come to act as a convenient foil for his sadistic projections; she was invested with his unconscious desire to destroy the children with whom he identified himself. In her he paranoidly recognized the same hatred toward children and, therefore, toward himself that he had imaginatively experienced in his mother's feelings toward him. By killing her he symbolically slew his mother and with her his own impulses of hatred toward himself. Even more significantly he had revenged himself on the woman who, he believed, had made him impotent by allowing him to become a cripple.

(*To be concluded in next issue.*)

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ONTOGENY OF BISEXUAL DIFFERENTIATION IN MAN

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(*Concluded*)

Homologies in the Ontogeny of Bisexual Differentiation of Erogenous Zones

Freud (1905) showed that the young child, when properly fed and affectionately cared for, undergoes a sequence of special organizaations of its pleasurably erogenous functioning and social learning. His views are so well known to psychology that a brief statement of their essential points will suffice here. The first stage of erogenous functioning in the postnatal infant is the free dominance of oral-alimentary craving for sucking the breast of the mother until it ends in a filled stomach and apparently voluptuously tumescent pleasures as shown in the depth of its reassurance and contentment in sleep. This pattern of organization is followed upon teething with substitutions of biting for sucking, leading to natural weaning in the second year. Then follows increasing importance of the pleasurable anal-rectal defecating and cystic-urethral urinating sensations and compulsions and interest in such creations. These become subordinated in the third year by phallic (penis or clitoris) erections with pleasurably ticklish feelings and impulsive manual and leg pressures with exhibitionistic reactions upon pleaant emotional excitement. Following this phase, at about the fifth to sixth year, repression of reflex autoerotism and incestuous infatuation begins unaccountably and leads to a sexual latent period which extends to adolescence. He maintained (as previously cited) that no other animal has a comparable pre-adolescent latent period. This is followed in adolescence by a socially conditioned fanciful phase of autoerotism which leads to an overt or sublimated homosexual phase followed by a heterosexual phase in adulthood.

My conception of the sequence of ontogenetic stages of bisexual, erogenous differentiation in man and their relative activities has followed Freud in a number of ways but differs decisively from his views in certain essentials. I have based it upon the order of ontogenetic recapitulation of phylogenetic levels in the peripheral organ growth and

neural integrations of the parts, which leads to quantitative differences in the homologies of reproductive development and forms of volitional self-control under socialization of the concomitant development of the ego-attitudes of boys and girls.

The human embryo first develops in the genital cloacal pattern of aquatic hemaphrodism, and gradually differentiates heterosexually in these parts in the male-dominant female-subordinate direction, or vice versa, as the ratio of gonadal differentiation determines the enclosure of the urethra in the corpus spongiosum in the male and lets it remain open in the female. Before birth this differentiation has progressed far enough morphologically to make it definitely a boy or girl, but emotionally or physiopsychologically it is less decisively M/f or F/m. Its cerebral cortex is still largely undifferentiated and bisexually equipotential, and externally unconditioned, although the diencephalic and lower neuron levels are probably well inclined M/f or F/m in proportion to tertiary differences in development of autonomic and somatic organs. The sex of most infants cannot be differentiated without looking at the genitals. After birth it functions emotionally in M/F or hermaphroditic narcism and is parasitically dependent upon its mother. It passes through the stage of emotionally pleasurable, oral-gastric milk-sucking attachment to her, followed normally by teething that autogenously weans it by craving the biting of other foods. Concomitantly, but more slowly, the cloacal differentiations of autonomic-somatic ano-rectal defecation functions and cystic-urethral urination functions constitute self-excitatory erogenous pleasures of high emotional value. They become dominant after oral reduction upon teething. This order is naturally determined by the slower spinal and cerebral myelinization of representations of the caudal end than the cephalic end of the organism and not by the mother. About the third year reflex phallic erections, *by the corpora cavernosa only*, occur in both sexes and pleasurable leg pressures and manipulations supersede the earlier cloacal derivatives in influence.

The influence of recto-anal defecatory processes upon bisexual differentiation of the personality is difficult to estimate. The close proximity of the organs to the genito-urinary, their cloacal phylogeny, and their daily, repetitious, highly ticklish and itching tumescence and pleasurably spasmodic compulsions begin early in infancy to influence the developing ego-attitude in the direction of conforming to them or in opposing and trying to control them. The different influences of the many different qualities of these functions on character forma-

tion have been presented by Freud (1905, 1917, 1933) and Brill (1913) and many other psychoanalysts. They show definitely such character traits as love of hate and destructiveness, cruelty and slovenliness, lying, cheating and stealing in unrepressed anal erotism, and miserly love of wealth, cleanliness and accuracy and fear of guilt, errors and poverty in repressed anal erotism. Children differentiate early either into attitudes of wilful care of self, tending more towards dominance and sadism, or attitudes that weakly continue submitting to involuntary evacuation cravings and wanting to be cleaned, tending more to submission and masochism. There is no sex differentiation here but the trend in either direction tends to summate with genital cravings to be more or less dominating or submissive. Too extensive social (prenatal) cultivation in either direction, whether or not followed by repressions, tends to interfere with the development of the heterosexual attitude in either sex. Primates use the mouth, hand or anus for homosexual intercourse in youth and are at first indifferent to females. In adulthood, when females are unobtainable they revert to homosexuality. Usually the larger and stronger dominates, but exchanges in position are not infrequent, hence easy M/f or F/m reversibility in sexual attitude is natural. In man similar tendencies occur in young males, and in adults when too long segregated. Observations of such behavior in primates for understanding similar human potentialities were first published by Hamilton (1916) and Kempf (1917), and many others since, but their phylogenetic values have not been appreciated by psychiatrists or psychoanalysts.

The unstressful development of wilful control of feelings and impulses to urinate in combination with manualization and speech is of the utmost importance for the young boy and girl in order to establish self-confidence in genital and other functioning. The retention and evacuation of urine is controlled in both sexes by several muscles. The tonic contractions of the bladder and the internal vesicle sphincter of involuntary muscle, which surrounds the urethra at its source in the bladder, are the first controls. Relaxation of the bladder increases its capacity and reduces the hydrostatic pressure, whereas constriction intensifies it. In the male, retention is supported by the involuntary muscle fibers of the prostate. Where the urethra extends from the prostate to enter the bulbus urethrae it is surrounded by an *external vesicle sphincter of mixed involuntary and voluntary muscle* (compressor urethrae) which is the chief means of voluntary control against bladder compressions to evacuate.

In the male, learning how to differentiate and control voluntarily the act of urinating involves the following stages in reflex adjustment. As urine accumulates in the bladder and stretches its state of postural tension, it involuntarily excites *weak, ticklish feelings* about the upper surface of the bladder above the symphysis, at the urethral outlet of the bladder, and in the external meatus of the penis. Such bladder pressure and feeling of compulsion to urinate is increased by other emotional excitement and it can be produced voluntarily by compressing the bladder through slight abdominal muscular contractions or gentle manual pressure, or relaxation and letting urine pass into the urethra. Too strong pressure changes the reaction pattern and prevents evacuation. The ticklish feelings tend to excite relaxation of the internal sphincter muscle of the bladder, and urine then leaks into the prostatic part of the urethra, where it excites an intense local feeling of compulsion to urinate. This stage can still be wilfully controlled by the trained, tonic contractions of the compressor urethrae muscle, which is under learned, voluntary control of the self-confident ego-attitude. Gradually induced relaxation of this muscle, through a feeling of weakening the grasp or letting go in this part of the body, analagous to the relaxation of the grasping postural tensions of the hand, permits the evacuation of urine.

The compressor urethrae muscle is easily excited to spasm, thereby preventing the passage of urine or a catheter. The fear of castration or any form of genital injury, or of any other kind of danger, or the presence of strangers or crowds, or of local erotic sensations from handling the penis, usually excite compressor urethral spasm and inability to urinate in the child. Such conditions may also cause inhibitory relaxation and inability to retain urine. Involuntary incapacities for retention and evacuation often exist in men, as conditioned, neurotic, attitudinal reflexes.

The compressor urethrae muscle is readily conditioned to constrict or relax involuntarily in human and other animals by such stimuli as the sound and sight of running water, by cold numbing weather or a distended bladder, and many associated, naturally neutral stimuli. The loss of self-control of the tonus of this muscle in the young, and in some adults, seems to have equivalent, masochistic, social meanings of submission to a stronger, greatly impressive, terrifying, sadistic person. The mere approach of strange, adult, large animals or aggressive human adults may excite puppies and young monkeys to such degrees of general, relaxing, submissive inhibition that they sink

to the ground and urinate on themselves, probably involuntarily. It seems to be a defensive reflex that reduces the aggressive attitude of the opponent. Shy young children, weakly trained in self-control, may have incontinence before strange guests or when first entering school. Later, in adulthood, they tend to fear crowds in church or theatre because of lack of confidence to prevent involuntary loss of self-control. Such involuntary weakness excites the group to ridicule, punish and loathe or pity them.

Upon erection of the penis, the retention of urine is promoted by the increased tonic contractions of the internal vesicle sphincter, the prostate and the bulbo-cavernosus and compressor urethrae muscles. During erection the anterior prostatic urethra, from the bladder to the entrance of the seminal vesicles (the equivalent of the female urethra), is closed off, while the prostatic urethra remains open for transmission of fluid from the seminal vesicles, and secretions from the prostate and Cowper's gland. These latter secretions lubricate the glans for copulation and serve as a useful alkaline carrier of spermatozoa. Where copious they excite slight urethral feelings similar to urinary feelings.

Urine can be voluntarily projected by pubertal to adult males in squirts, similar to ejaculation, by allowing a limited quantity to pass into the bulbous urethra and then vigorously contracting the compressor urethrae and bulbo-cavernosus and other perineal and abdominal muscles. The urinophilic young male proudly learns to hold the penis and voluntarily squirt the urinary stream upon an object, probably in preparation for future control of ejaculation. This kind of behavior is uncommon in young girls who usually regard it with mingled disgust and envy. Masculine inclined girls try to imitate boys.

Upon urination the ejaculatory ducts leading from the seminal vesicles are generally closed by that part of the prostate through which they pass, but in emotionally confused hypotonic attitudes spermatorrhea may attend urination. Precocious emission of spermatozoa upon intromission with undifferentiated feelings of being about to urinate and without spasm of the compressor urethrae and bulbocavernosus muscles, hence without orgasm, is not an uncommon experience in highly inhibited, sentimental, autohypnotic, autoerotic young men. The differentiation of voluntary control of urinary from ejaculatory functions is an essential concomitant for the transformation of the ego-attitude, from the narcistic autoerotism of preadolescent

maternal dependency upon sympathetic approvals and fear of moral disapprovals, to matured, aggressive, altruistic heterosexuality with independence of judgment of what is good and evil, desirable and undesirable.

In the female the urethra serves only for urination hence the differentiation of such functioning seems to be more simple, retention being regulated chiefly by progressive relaxation of the bladder with less volitional power to control evacuation than in the male.

In both sexes self-confidence in the voluntary control of retention and evacuation must be cultivated in the formative period of the young ego-attitude. In both sexes nocturnal enuresis is autoerotically pleasurable, and failure in childhood to make repressions without fear of inferiority and defensive striving, because of shaming, interferes more or less with the development of genital erotism and a self-confident attitude. In both sexes volitional sadistic and involitional masochistic potentialities are concomitants of urinary as of defecatory functioning and genital functioning, contributing to the aggressive-submissive attitude of the personality.

Freud held that the differentiation of male and female dispositions begins in infancy and extends through adolescence to maturity. The young girl is more responsive to and inhibited by *guilt*, *shame* and *loathing* (here we might add *fear* and *cruelty*) and more responsively encouraged by sympathy than the young boy, hence is more *passively* (submissively) inclined. "But," he said, "the autoerotiac activity of the erogenous zones is the same in both sexes, and it is this agreement that removes the possibility of a sex differentiation in childhood as it appears after puberty. In respect to autoerotic and masturbatic sexual manifestations, it may be asserted that the sexuality of the little girl has entirely a male character. Indeed, if one could give a more definite content to the terms 'masculine' and 'feminine' one might advance the opinion that the libido is regularly and lawfully of a masculine nature, whether in the man or in the woman" (1930-77).

I maintain that infantile impulsive and adolescent fanciful autoerotism and genital exhibitionism and curiosity in young boys and girls are *neither masculine nor feminine* but emotional or *psychophysiological recapitulations of hermaphroditic completions of being, that are extending to the cortical level the ontogenetic recapitulations at the perineal level.* Both sexes learn to excite pleasurable phallic feelings for themselves and wonder if other children and adults do likewise and

are impulsively inclined to find out (in preparation for the heterosexual transformation). Many bisexual differences in size and strength of organ growth, besides the genital, exist at birth and increase with age, and these, with constitutional bidynamic differences, are important factors in determining the ways of aggressiveness and submissiveness of children in their interpersonal relations with others and adults. The young girl's greater sensitivity and confusion over such differentiations, compared to the boy's, is based on the greater complexity of her organs, as previously cited, and on the greater difficulty with uncleanness, hence guilt upon disapproval of manipualtion and inspection, and on her lower catabolic pressure to overcome external oppositions (in her hormonal, uterine and mammary disposition to mother rather than master), and on the greater social value of virginal innocence in girls than in boys.

Freud morally held the human infant to be "polymorphous perverse" and incestuous, with ambitious cravings which more or less severely conflict in the family situation (Oedipus complex). Later he qualified this view (1933) by limiting its continuation, under incomplete repression, to neurotics, with complete repression and disintegration in normals. He seemed to place responsibility for incestuous love and killing jealousy more on the child than the parent.

A more comprehensive and evolutionary biological view is that the human infant, like the ape infant, is bisexually equipotential at the cortical integrative level; and, in its environmental ignorance and unlearned and unconditioned reflexes, its erogenous emotivation, although heterosexual differentiations are progressing, is still more *autoerotic* or *hermaphroditic* with *polymorphous promiscuous interests*, hence is *potentially incestuous*. Anthropoids are freely so. All races and nations of primitive and civilized man have had to develop severe customs, taboos and laws to prevent incestuous seductions of suggestible, amorous children by infatuated parents. Present religions like the ancient are largely beliefs that solve by repression and sublimation the family triangle as well as trials with the forces of nature.

The embryonic ego-attitude begins to differentiate the sex of persons through the mother's long continued and repeated nursing attentions, and her seductive or prohibitive emotional pressures have a strong formative effect upon it. Upon weaning, the girl inclines affectionately more to the father and rivalry develops between it and the mother, whereas the boy continues more towards its mother and rivalry continues between it and the father. Mothers and sons and fathers and

daughters generally have easier attitudinal interactions and more tolerant understanding, although family and social pride is partial to the greater usefulness of boys. The evolution of sex taboos began with the more powerful and jealous father's condemnation of too amorous mother-son relations to prevent later incest, followed by brother-sister taboos. Later father-daughter taboos developed as virginity increased in economic value through the price that proud young grooms would pay for social assurance. Naturally, all parents must learn to grade their exchanges of affection with their children so that each gets a well balanced amount of attention and support with avoidance of too much or too little. It is first the parents' problem and secondarily the child's, and not the reverse in order as Freud held.

The time of repression of incestuous interests by the young ego was left by Freud as an unexplained mystery. However, the loss of the first deciduous teeth gives a deep psychophysiological shock to the self-perfected, young, narcistic ego-attitude of the boy or girl, and these repetitious imperfections tend more or less to confuse, depress and inhibit it. This is the first real experience with death in itself and leads to fear of the effects of its death wish for its rival. With the emergence of the first permanent teeth a slow reformation of self-confidence in its social attractiveness develops. This decisive biological period is based on changes in hormonal ratios which now drive the highly loquacious and acrobatic young ego to use most of its ebullient energy in developing more and greater muscular and intellectual abilities and to yield to the prohibitions which reduce its affective dependence on the opposite sex parent. Therewith it represses its jealousy and rivalry of the same sex parent and identifies itself with it and prepares to win the love of someone like the same sex parent outside of the family, among its playmates and ideals (who are usually more developed). A definite homosexual inclination develops in the intense passion of boys to gang up in equal ability groups for sports and mischief and in girls to develop crushes and cliques for playing "house." In addition, basic compensation in cardiovascular emotional tonus and amplitude for work, against fatigue, pain, loneliness and fear of death, must take place in this period. It becomes the decisive factor in the future capacity to overcome obstacles and master social and other responsibilities, and boys exhibit and test one another's courage many times daily for comparison.

Preadolescent primitive children, I hold from field reports by Malinowski (1927), Mead (1935), Unwin (1934) and others, and

civilized children, do not have a natural, preadolescent, latent sexual period as claimed by Freud. The growth of the genitals and other organs, although slow, is under the heterosexual differences in ratios of hormones. Primitive and civilized children naturally keep up their sexual curiosity and learning through autoerotic, homosexual and heterosexual experimentation, like young apes, unless repressions of interest under severe prohibition have been made. The parental and tribal plan of culture of relentless moral taboos of too incestuous and autoerotic interest forces children to make certain repressions of thought and emotivation, which turns them to other methods of emotional expression and satisfaction which may be in harmony with or reverse the normal trend of sex differentiation. Pride in winning a more or less heroic place on a team in organized competitive sports is the most effective sublimation for either sex. National outdoor organizations that cultivate sportsmanship and self-reliance are invaluable consumers of energy, time and interest which otherwise lead to sexual play.

The adolescent period uses for masturbation narcistic fantasies about the opposite sex in a manner that acts out being that person while also being its own sex copulating with it. This is like the impulsive infantile autoerotic period in that it still recapitulates in bisexual attitude self-fertilizing hermaphrodism. Homosexuality during pre- and postadolescence is characterized by play at being interchangeably male or female with one of like sex who has a weaker or stronger ego. It recapitulates in attitude of phylogenetic advance from concomitant self-fertilizing to alternating, cross-fertilizing hermaphrodism, which is more complex and social.

My conclusion (1920) that the homosexual phase naturally attends the autoerotic phase of adolescence and precedes the heterosexual was based on Freud's (1914) observations and theories of sex, on Hamilton's (1916) and my own (1917) observations of infrahuman primate behavior, on observations and reports by many investigators of boys and girls and men and women of primitive and civilized culture (Krafft-Ebing, 1912; Havelock Ellis, 1905; G. Stanley Hall, 1911), and on the psychoanalysis by myself and others of many psychoses and neuroses. McDougal (1925, 1936) said that I assumed this order without showing grounds for it, demonstrating himself to be unreliable in the incorrect use of evidence. He asserted: "It would seem that in Dr. Kempf's view homosexuality is fundamental and more primitive than heterosexuality; that in a large proportion of children the

sex impulse becomes, at various ages, directed to the parent of the opposite sex and that in a considerable portion of these the ensuing conflict with the parent of the same sex results in reversion to primitive homosexuality." This view he called "highly peculiar."

My reply is that autoerotic hermaphrodism naturally precedes homosexual hermaphrodism which is followed by heterosexualism, in the primates, and in primitive and ancient and modern civilized boys and girls and young men and women, when sexual impulses are not suppressed by too severe prohibitions. A similar sequence is observable in dogs, rats and baboons. The transition to homosexuality or sexual self-likeness from autoerotism is a far easier and more simple step and requires less hormonal differentiation and physical maturation than the conversion to heterosexualism. In man, too intense opposition to heterosexualism from any source, including shame and remorse for incestuous attachments or punishment by a rival, mate, law, religion or disease, forces a regression to homosexualism or autoerotism. (Comparable regressions under threat or segregation are found in apes, monkeys, dogs, rats.) The persistence of homosexualism in physiologically normal human adults of either sex is mostly the result of heterosexual frustration through amorous fixation on an inaccessible or unresponsive person (parent, sibling, mate). Incestuous infatuations in young adults naturally dispose to increase of homosexuality, because the heterosexual fixation and fear of shame and guilt under the moral prohibitions of respected people and recognition of the rival parent's rights are insurmountable obstacles. Too intense affection for either parent or a sibling interferes with the development of heterosexual love and reduces power to compete with rivals. Young men segregated in the army, navy, prisons, schools or monasteries have most severe difficulties with the flood of erotic emotivations turning towards homosexuality or autoerotism for relief. Such impulses are generally so severely condemned that erotic neuroses and psychoses are often produced. An excellent illustration of the versatility of erotic pressure and its tendency in man to retain or develop homosexual outlets when heterosexuality is obstructed is given by Malinowski (1927). In the Trobriand Island, taboos against brother and sister relations are extremely severe and not even friendly communications are permitted, but boys and girls outside of the family are allowed free sexual play with each other from early childhood through adolescence to adulthood. Autoerotic or homosexual addiction and neuroses are unusual, and happy marriages are general. In part of the island well

meaning missionaries segregated boys and girls, and here homosexuality became prevalent.

Boys who masturbate in adolescence but do not have homosexual affairs generally have far more difficulty in developing heterosexuality than boys who have shared affections and confidences and later learned to make love to girls together. Similar steps in attitude transformation seem to be necessary for girls. I have talked this observation over with Rank, Freud, Ferenczi and other psychoanalysts, and it seems to be generally agreed that secret, isolated autoerotism does not convert easily to heterosexualism and is far more difficult to cure by psychoanalysis than homosexual masturbation that has not continued too long. Oral and anal homosexualism is more difficult to convert than masturbation. The universality of autoerotism in childhood and adolescence and of intense adolescent homosexual friendships, that become extended in team, school, club and gang loyalties and later into the secret societies and clubs of adulthood, and the universality of prostitution (Sanger, 1937; Bloch, 1926; Ellis, 1934) generally with young men and women in groups, is incontrovertible evidence that human homosexuality is an ontogenetic emotional recapitulation of the phylogenetic order towards heterosexualism, as old as man. Its attitude is so universal, well organized and characteristic that it cannot be called a degenerative disease until it interferes with the natural conversion to heterosexualism and reproduction, and it certainly cannot be regarded as a later and higher step or a freak in evolution.

The normal ontogenetic, psychophysiological recapitulation of the phylogenetic order of bisexual differentiation in man and other primates follows, in a series of attitudes, the morphophysiological order of increasing differentiation. (1) Infant and adolescent autoerotic behavior, characteristic of simultaneous hermaphrodism, followed by (2) adolescent homosexuality characteristic of alternating hermaphrodism, followed by (3) postadolescent weakly differentiated heterosexualism reversible to homosexualism, followed by (4) irreversible heterosexualism in maturity and the need for completion of being through mating and reproduction.

It will be recalled that, in the phylogeny of bisexual differentiation, low grade calcium metabolism and low thermogenesis in fishes and amphibians up to reptiles is accompanied by weak heterosexual chromosomal and gonadal determination with easy reversal of sex upon unseasonal variations in heat or cold, tending to hermaphrodism. The

human infant is thermally inconstant and gradually achieves constancy with skeletal and sexual maturity. Autoerotic or intersexual males and females remain emotionally and thermally less constant, that is, fluctuate more violently than more matured types and resist diseases and stresses less well. With the climateric there is a diminution of thermal constancy accompanied by sex hormone reductions and regressions to intersexualism.

This order of ontogenetic recapitulation of bisexual differentiation is consistent with accepted biological evidence on the chromosomal, gonadal and sensory-emotional conditioning differentiation of every grade of sexuality, ranging in each of the three factors through the level of sterile male supersex in which the female ratio is too weak, the fertile male with right balance of subordinate female ratio, the too equalized, sterile intersexes, the fertile female with right balance of subordinate male ratio, and the sterile female supersex in which the male ratio is too weak. A certain amount of emotional or psychophysiological bisexuality is indispensable for social understanding and cooperation between the same and opposite sexes.

Homologies in Heterosexualism

Freud claimed that the young girl's clitoris erotic impulses are aggressive and homologous with the young boy's penis impulses and therefore masculine, whereas I hold that they are neither masculine nor feminine but attitudinally hermaphroditic and immature, comparable to such impulses in the subhuman primates, dogs, cats and rodents. Two types of adult female, the infantile, narcistic, masculine, clitoris erotic, and the matured, feminine or maternal, vaginal erotic, were differentiated by him. These factors, he emphasized, perform different, although allied, functions in female sexual excitement, and thereby she begins as clitoris erotic without vaginal tension but she can develop into a vaginal erotic type with preceding erection of the clitoris. In the latter state the clitoris performs a preliminary excitatory and a later minor part. When the clitoris erotic state is dominant in women the sexual attitude remains narcistic and tends to develop penis envy and masculine aggressiveness, and the vagina is not prepared by a transference of libido for copulation. Such women hate masculine males and tend to court feminine females, leading not infrequently to homosexuality.

Freud said there are "profound differences between the sexual development of men and women." "The first sexual object of a baby

girl (just as a baby boy) is her mother; and before a woman can reach the end of her normal development she has to change not only her sexual object but also her predominant genital zone. From this circumstance difficulties arise and possibilities of inhibiton occur which are not present in the case of man." This change of personality, he seemed to hold, was promoted by fancies of castration and resignation of penis envy in submission to the father's will. Parental preferences for masculine or feminine girls must certainly have a conditioning attitudinal effect, but more basic is the difference in ratio of M and F hormones with the latter type more strongly F/m.

Freud admitted that woman remained an enigma to him. If he had not tried to force her to make repressions and conversions of libido, which he conceived as masculine, and let her be natural and follow in the organization of attitude her morphological F/m differentiations, he might have realized that women, like men, vary greatly and most of them do not have penis envy to repress but are happy in the inclination to maternal creation and becoming the bisexual opposite of the man, even though society favors him.

In his study of the sexual maturation of the male, Freud made another serious mistake. He assumed, as anatomists and physiologists have generally taught, that the vascularly distensible parts of the penis are functionally as well as anatomically one organ and develop their higher neural integrations concomitantly and consistently from the infantile form without a change homologous to the female. He did not consider the homologies in the fact that the male genitals have a dual morphophysiological organization like the female, as previously shown (Figs. 5 and 6.)

The cardiovascular-hemodynamic emotional preparation of genital tumescence for copulation and orgasm are normally homologous and complementary in physically matured, attitudinally M/f males and F/m females. The physiology and psychology of genital tumescence in relation to the erogenous attitude of man and woman has been incompletely and inaccurately understood, leading to endless confusion in family training and school education, mental hygiene, sexual relations, and psychoanalysis and other forms of psychotherapy, hence the principal factors are presented in detail in this and the following sections.

Most physiologies do not differentiate the functions of the two vascular parts of the penis in describing erection and orgasm. Ac-

cording to Howell (1937), the erection of the penis is largely regulated by the autonomic fibers in the nervi erigentes which arise from a special center in the sacral part of the spinal cord. They contain vasodilator fibers to the penis as well as to the rectum and anus, and visceromotor fibers to the descending colon, rectum and anus. Since sympathectomized males can have erection and copulate but cannot produce ejaculation, the vasodilators of the corpora cavernosa and corpus spongiosum belong to the parasympathetic system. They normally react in erotic states that are free from rage, jealousy and fear of injury or pain.* Vasoconstrictor nerves reach the arteries of these parts via the pudic nerve from the sympathetic hypogastric plexus and the second to fifth lumbar spinal nerves. Homologous female parts have, no doubt, like innervations. The spinal centers are dominated and coordinated with the rest of the organism by erotogenic nerve centers in the medulla, diencephalon and cerebral cortex. Experimental local stimulation of certain areas of the cortex excites erection and interest in sexual play.

The great pattern of cardiovascular hemodynamic emotional support for genital tumescence and successful copulation is so fundamental and highly differentiated from the patterns of other attitudes that no doubt different erotic attitudes have highly specialized formations. Herein is the psychophysiological key for understanding bisexual emotional differentiation of masculine and feminine attitudes as will be shown later.

The existence of two different, vascularly distensible cavernous parts in the male and female genitals, which are functionally and anatomically homologous, with different rates of development and like innervations for the same parts, is the basis for two different qualities and quantities of sexual excitement and attitude formation in both sexes. Vascular distention of the corpora cavernosa occurs in infant males and females and continues to be the first reaction in the sexual foreplay of narcistic pubertals and adults of both sexes. It produces only an erection of the upper longitudinal part of the penis or of the major part of the clitoris. This condition in males disposes to urinary feelings in the glans and ejaculatio precox. Distention of the corpus

* The fact that in preestablished states of intense erotism the cumulation of restrained tensions and cravings may develop into sadistic passion for violent copulation with painful injury to self and mate, or that genital tumescence and sexual submission may serve as a defense in unavoidable assault, does not contradict this inference. Impotence attends fear unless a defensive compensation develops.

spongiosum does not occur in preadolescent boys and girls and in feminine males or masculine females of autoerotic or homosexual attitude trying to be heterosexual. It is produced at times for autoerotic and homosexual postadolescents and adults under adequate altruistic interpersonal excitation and hormonal preparation.

In the matured, masculine male the vasodilation of corpora cavernosa is increased by the high degree of tension of the ischiocavernosus muscles followed by the vascular tension of the corpus spongiosum increased by the bulbo-cavernosus and compressor urethrae muscles, all restricting venous outflow. This produces a full or maximal erection of all distensible parts of the penis, characterized by strong arterial and venous congestion of the deep and superficial blood vessels. The color of the glans turns to a deeper purple and its surface becomes firm and tensely distended, and the weak, urinary feeling of ticklish sensitivity characteristic of the narcistic erection is extinguished. The phallic sensations of complete vascular tumescence and full increase in diameter are a potent, throbbing, pleasurably aching perineal fullness that extends to the base of the penis and tends to excite semi-voluntary movements of the erection. These conditions are not produced by tumescence of the corpora cavernosa alone.

Full phallic tumescence in the male is indispensable for full orgasm. This degree of erection may be developed before or during copulation, and is characteristic of the capacity of confident withholding of emission. It may also be developed after a precocious emission in those who are sufficiently amorous to repeat copulation after rest and natural recovery with involuntary erection.

The orgasm is initiated by the summation of sensations of the corona of the glans rubbing over the lubricated vaginal ridges near its entrance. Spasmodic action of the involuntary musculature of the seminal vesicles, the lower spermatic ducts and the prostate forces spermatic fluid into the prostatic urethra where the quantity of fluid is increased by additional flushes of prostatic secretion. Repeated distention of the urethra is thereby produced as ejaculations are forced by the spasmodic grasping and squirting action of the compressor urethrae and bulbo-cavernosus muscles upon the distending fluid. The pleasure-pain effect of repetitious, spasmodic compression upon distention in the male becomes maximal when it is combined with friction against the compression of the spasmodic grasping vagina over the glans and body of the penis, so as to press its distended blood vessels for complete summation of stimuli. (It may be said here that spasmo-

dic compression against a distending mass may occur in any of the hollow viscera and, where it is not too severe and successfully produces emission, it has equivalent orgasmic effects. This physiological potentiality is the basis for the perversion of autoerotic emotivation when the genital form is too completely repressed, becoming a cause of chronic visceral tensions as functional diseases leading to organic diseases.)

Completion of orgasm includes the excitation of further nervous integrations. The sensory nerve impulses from the vigorous ejaculations and external friction upon the distended organ immediately excite the midbrain and cerebral cortex, previously well prepared by the excitements of courtship, producing the craved commingling of involuntary pleasure-pain sensations which at first are localized to the genital cortical areas but quickly radiate so as to involve most of the sensory and motor cortex and its accompanying autonomic centers. Orgasm then rapidly involves the postural tensions of the respiratory, circulatory and gastrointestinal systems, and the postural tonus of the legs, feet, pelvis, back, arms, hands, body, eyes and facial muscles, in involuntary changes of tension and movements. Involuntary pelvic thrusts develop which supersede and increase the rate and amplitude of the previous voluntary pelvic movements so as to produce full insertion and ejaculation upon the uterine cervix. The orgasm soon ends in complete genital detumescence followed by the tendency to general neuromuscular relaxation at all integrative levels, leading to deep, refreshing sleep. The self-control or timing of the orgasm in both sexes is managed by the male, through the rate and intensity of the copulatory friction, summating with the cardiovascular-hemodynamic tension, and the form, consistency and integrity of the erotic ego-attitude of both.

Two great differences in sexual attitude and potency exist in females as in males, as previously mentioned. In the immature, narcistic female and in the masculine female attitudes, the vascular distention of the corpora cavernosa only produces an erection of the clitoris, which is incomplete with peculiar sensitivity of the glans and not fit for copulation until attended by vascular distention of the bulbus vestibuli.

Erotic excitement of the matured, feminine-female attitude is complementarily homologous with that of the matured, masculine-male attitude. It produces first a vascular distention of the corpora cavernosa and erection of the clitoris, followed as erotic infatuation is increased through the interplay of impulsive courtship in both sexes, by the dis-

tention of the bulbus vestibuli and glans. This vascular distention embraces the vaginal and urethral orifices, considerably reducing them and preventing feelings of self-doubtful involuntary urination which otherwise harass immature females and keep them too anxiously preoccupied to enjoy copulation. This state is characterized, as in the male, by pleasurably aching sensations and feelings of fullness exciting impulses to submit to copulation. The glands of Bartholin, and the sebacious, odoriferous vulvar glands, secrete copiously during erotic excitement and prepare the orifice of the vagina for receiving and grasping the craved aggressions and stretching of the penis. These genital secretions are olfactory excitatory of erotism and Cowper gland secretions in the male, increasing the lubrication indispensable for ease of intromission. In the female these glands are of maximal size between puberty and the menopause. The labia majora, which protect the vulva, are homologous to the scrotum and have a similar low degree of cutaneous sensitivity unimportant in copulation.

The striated muscular layers of the corpora cavernosa and bulbus vestibuli and the anterior end of the vagina are capable of voluntary contraction but they also contract in rhythmical, involuntary, spasmodic grasping, with the grasping aspiration of the uterine musculature upon orgasm. The pleasureful-painful orgastic contractions of the bulbus vestibuli upon the distending, moving penis are completely homologous to contractions of the bulbus urethrae in the male upon the distending semen, and the pleasure-pain feelings involve the cerebral cortex in radiations from the genital centers to other autonomic and somatic centers as in the male.

Reciprocal, concomitant production of orgasms intensifies the pleasure-pain experience for both mates and is the natural means of timing seminal ejaculation with uterine aspiration for increasing the possibilities of impregnation. This is the natural objective of mating, and is only produced by willing cooperation after developing a high degree of physical and personal infatuation, altruism and respect for each other. It is not experienced under the secret withholding of self-love or the repressive puritanical obsessions which interfere with free cooperation.

Bisexual Differentiation of Masculine-Male and Feminine-Female Attitudes

It has been pointed out that the masculine attitude of more direct, blunt and logical aggressiveness, domination and obstinacy of action

and the feminine attitude of more indirect and subtly attracting aggressiveness leading to submissiveness can be cultivated in young males or females by the direction of pressure and appeal of attitudes of parents and siblings. The importance for the family and society as well as individual integrity, health and happiness, of the complementary social culture of attitudinal masculinity in men and femininity in women, consistent with the hormonal and organic differentiation, cannot be overestimated. The primary, secondary and tertiary bisexual organs are homologous but differ quantitatively and mechanistically, and are natural organizers of masculine or feminine attitudes when social appeals and approvals are relatively supporting and not interfering.

Humanity, primitive and civilized, generally admires and idealizes well balanced self-confidence and integrity, courage, fortitude, strength and skill with potent passion, and dislikes fear of pain and defeat, anxiety, weakness, self-doubt and cowardice. The former disposes to consistency of attitude with generally greater reproductivity and protection of family and state and the latter disposes to impotency and degeneration.

The social culture of a reproductive inclination of attitude must begin in both sexes with a primal, emotional hermaphrodism that is completely narcistic, characteristic of parasitic infancy. Its cardiovascular-hemodynamic-respiratory emotivation continues to function eutonically through the autogenous use of imaginations of self-projection, augmented by easily won praises of its parents and playmates, and is unfit for future needs of social cooperation and work. Graded social requirements and expectations are imposed upon it with the design of bringing about a progressive conversion of its emotivation so that it will compensate courageously, excitatorily against the inevitable increase of external oppositions, frustrations, fatigue and pain, instead of being easily, inhibitorily discouraged. The tonic, postural mechanistic forms of the muscles of the heart, blood vessels and respiration grow larger and more powerful with conditioning experiences and work so as to be more or less prepared and willing to meet competition and assimilate defeats and rejections and make final decisions upon the loss of the love-object stimulus. Therewith only can the heterosexual differentiation of attitude, with greater aggressiveness or masculinity, and less submissiveness or feminity in males, and the reverse attitude in females, develop through adolescence and become irreversibly fixed in adulthood.

In each step of reorganization of the personality from self-centered, narcistic hermaphrodism to altruistic heterosexualism with emotional dependence on winning reciprocal interactions with a mate, the ego must be able to see itself (have consistent visual imagery and think of itself) with a certain degree of consistent, warm-feeling, self-satisfaction and self-respect which is essentially narcistic in its repetitiveness. In the autonomic emotional hermaphrodism of youth and adults the use of beautiful visual perceptions of self, for perfection of being in some favorite way, is quite *direct* and transparent. In emotional heterosexualism narcism has become more or less renounced and the ego-attitude is dependent for completion of being through creating or doing something that wins the attention (gratitude, praise, flattery, admiration, infatuation, glorification, honor) of respected people. Such egoistic gratification is *indirect* and disguised. It must be enjoyed with self-restraint, modesty or even humility lest too obvious pride or exultation in success offend the giver of honors who is also its natural rival and wants to be remembered as a factor in the cycle. Through winning the voluntary and involuntary signs of love of the mate as a highly specialized object and stimulus of the state of love or eutonic emotivation, the ego completes its heterosexual cyclical dependence and obtains confirmation of the social fitness of itself. It must see itself socially fit as other respected people see it in order to feel right in its autonomic and somatic self-righting reflexes and then only is heterosexual cooperativeness and potency maintained. Seeing itself as socially unfit in its mating direction is conducive to impotency and degeneraton or regression, and seeing itself in indecisive confusion over wrong doing produces remorse and anxiety.

Primitive and civilized families and societies vary enormously in such cultural insights and arts and they rise and fall with them. As a general rule the more the parents indulge the child's narcism up to adolescence the more severe are the trials to produce a renunciation and conversion to heterosexualism. Many societies claim the child at this stage and force it through a series of trying initiation ceremonies (often including circumcision), in which expression of fear and pain is unforgivable, so that conversion to a more altruistic or fraternal and heterosexual attitude will take place. The intuitive goal is to bring about a conversion of attitude from direct narcism that will be socially cooperative and right for mating.

The vascular distention of the organic genital parts requires in heterosexualism a more courageous and self-reliant, matured, al-

truistic cardiovascular-hemodynamic support than the primal self-loving attitude gives. It must not only crave copulatory union but feel infatuated admiration for the physical and personal attributes of the mate and love what the other does to it as well as for it, and not be fearful or jealous, as a self-loving rival, of the other person's superior organs, abilities and claims on its energies and attention. The highly socialized forms of the augmenting sequences of foreplay with a fully reciprocating mate show that they are necessary to form holistic attitudes that expose special nerve centers to special times, rates and extents of excitation.

Affectionate cooperation is conducive to erotism between mates but it may be too safe, soft and unexciting with too great cranial parasympathetic, nutritional dominance, whereas too tempestuous aggression and competition cultivates too general parasympathetic inhibition and sympathetic dominance. Relative degrees of sympathetic excitement in interactive, mischievous foreplay is necessary for both sexes to give adequate tonus to the autonomic and somatic musculature for copulation. The hypnotic pleasure of looking into each other's eyes and making impulsive exhibitions of beautiful parts of the body and skillful exhibitions, exciting admiration, fun and laughter in the mate, leads usually to the pleasure of kissing and petting or teasing and lightly painful biting and squeezing which soon becomes highly excitatory of cravings for completion of interdependent heterosexual being through union. Sexual foreplay therefore needs essentially to be a skillfully learned combination of safeties and assurance with adventurous self-expressions and self-determinations and new, delightful surprises between prospective mates. Complete freedom to act as emotional impulses develop is necessary for both sexes. Each one then soon learns what it likes and dislikes to do for the other and to have done for it, and this naturally decides the success or failure of the match.

No part of the sexual courtship has been more confused by Freud than the needs of sadistic and masochistic interplay. He went so far as to claim that the aggressive cravings of sadism had destruction of the mate for its aim, and masochism had self-destruction for its aim. His confused radical views are apparent in his pursuit of a line of thought to the limit without considering its counterbalances. He said: "The ego (or rather, as we should here say, the id, the whole personality) originally includes all the instinctual impulses; if this applies equally to the destructive instinct,

it will follow that masochism is older than sadism; and that sadism is the destructive instinct directed outwards, thereby acquiring the character of aggressiveness." – "Aggression when it is impeded entails serious injury, and we have to destroy other things and other people, in order not to destroy ourselves, in order to protect ourselves from the tendency to self-destruction" (1933, 144). According to such logic, since we must eat to live we need to continue eating until we die. Actually, when aggressiveness or acquisitiveness is not graded and reciprocally counterbalanced by submissiveness or avoidance it is as diseased as extensor reflexes not reciprocally counterbalanced by flexor reflexes.

Both males and females of other animals (mammals, birds, reptiles, fishes) have in erotism aggressive, exhibitionistic impulses with sadistic tendencies to inflict pain and submissive, masochistic tendencies to look on and be painfully excited. Man feels both such tendencies as pleasurable cravings and no doubt other animals have similar sensations. This is characteristic of the teasing play-fighting of all sorts of young animals. Such reciprocal impulses indicate that the more erotic one, regardless of sex, accumulates emotional pressure faster than the less erotic mate and begins to show off and pick, bite and tease it. The latter pleasurably accepts such aggressiveness, although it may inflict light pain, until it is erotically excited, then copulation is sought. Observations of romantic courtship in man show that such impulses also extend to showing off mental powers in forms of wit, humor and joking They are enjoyable for both mates so long as they do not have the narcistic purpose of establishing a personal superiority at the other's expense.

When sadism leads on to erotic murder and masochism craves to be murdered or to commit suicide, altruistic heterosexualism has not developed or it is still reversible to hermaphrodism under unavoidable oppression. The ego-attitude is then still directly narcistic and jealous of the mate's superiority in organs and abilities and feels compulsions to destroy it or itself in order to remain in its hermaphroditic egotism against the heterosexual's demands. All grades of such attitudes and impulses exist and they generally vary in degree with different mates. They tend to grow pathological when a mate who has grown unsatisfactory cannot be completely avoided through divorce. In free animal life new mating follows such states instead of destruction.

Persistent, pleasant local stimulation, in almost any form, of the external erogenous zones around the genitals, excites the immature or

first stage of erection of the penis or clitoris. Conditions which irritate the internal genital surfaces, distention of the bladder or the seminal vesicles or rectum, and itching irritations of the anus, may cause the first stage of erotic excitement. Any erythematous, itching area of skin or mucosa may become an erogenous zone through rubbing, causing pleasurable-painful feelings with genital tumescence and urethral tensions. Whipping, scratching, biting, blistering, burning, and areas inflammation and eczema, have been cultivated for erotic excitement. Cruelty, bloody sacrifices, fighting, or witnessing copulation of man or other animals, cause erotic excitement. Gentle tickling or stroking of special surfaces of the skin, such as face, lips, throat, back of neck, abdomen, breasts, nipples, hands, arms, legs, feet, buttocks, and certain odors and tastes, can also cause genital erotism, apparently without previous conditioning experiences. These reflexes occur in males and females of human and other animals and form the basis in man for an enormous variety of erotic arts, through conditional associations of visual, auditory, olfactory and kinesthetic stimuli becoming suggestive of erotism. States of physiological estrus increase such suggestibility.

The form and degree of erotism, muscle tonus and vascular dilation, hence the degree of genital tumescence or erection, varies greatly in the same man and woman under different states of emotional excitement by the same or different mates. (Such variatons of potency are also observable in apes and other animals.) The emotional attitudes of narcism versus altruism, of fear and hate in cruel and vulgar love versus tender and admiring love, or of strong or weak hormonal effects, or incomplete excitation and insufficient experience, of new romantic adventure or dull complacency, include different cardiovascular-hemodynamic attitudes that influence the form and degree of genital tumescence. Fear in any form, until adequate compensation develops, leaves the orgasmic parts of the genitals inactive in physically adult men and women. When erotism is supported by a 'whole hearted' acceptance, on the conversion of attitude, with enjoyment of full responsibility and without fear of consequences, such as the aversion or disgust of the mate or memories of the moral disapproval and shaming of the parents, or violation of the law, and without fear of uncleanness or aggressiveness, disease or pregnancy, or of jealous rivalry, or remorse of conscience, and with complete longing for possession of the mate with wholly giving up the self to the other, then a full tumescence of both vascular parts of the genitals is produced in both sexes.

The cyclical periods of natural estrus should be well known to the woman for they are more conducive to full excitation of erotic craving, and their indications should be well known to her mate. The constitutional, attitudinal and cultural harmony of both people greatly facilitates the full development of erotism for them and it should be seen as the product of the two people's life long cultures working on each other and not as the result of either one's will power.

Many men and women believe that they achieve adequate sexual satisfaction with copulation although they do not develop a fully matured genital tumescence and orgasm. These same people are more or less neurotic from repression of incompleted sexual reflexes without knowing it. *It can be truly said that men and women who develop full orgasm in tender love do not have neurotic sexual repressions, and those who have neurotic sexual repressions do not achieve full orgasm even though they copulate in the reproductive direction under pressure of erotic craving, and they are more disposed to develop neuroses under other conditions.*

The development of heterosexual copulation in the reproductive direction with tender love relations, wherein the complementary desires to possess and be possessed are successfully completed, brings about a phasic biological depth of satisfaction with life and feelings of its relativity with other forms of life that no other experience or state of mind can give to man. Nature has, it seems, with the development of bisexual differentiation from the primary hermaphroditic mechanism, also developed a highly specialized drive and craving for mating which is only fulfilled in the realization of union and completeness of being in the simultaneous orgasm in the reproductive direction of specially constituted lovers having complementary energic constitutions and ego-attitudes. The only other comparable experience is said by women to be that of giving birth to the loved child without the use of opiates or narcotics.

The bisexual differentiation of the attitudes of man and woman must be extended beyond the sphere of sexual play so that it is consistent in the culture of their social attitudes from childhood to adulthood to senility. The man's craving to be the protector and provider and the woman's craving to be the mother and home maker for him and their young are primal signs of attitudinal differentiation in harmony with organ differentiations, found in all races and classes of mankind. The culture of sexual differentiation of work in social relations and organization must always be based on the morphological attributes

and physiological needs of reproduction in order that a nation shall reach and maintain its greatest population consistent with the highest level of culture and living.

Man's Need of Social Culture of "Light" and "Warmth" for Reproductivity

The foregoing presentations of the order of bisexual phylogeny and ontogeny towards greater self-control of reproduction, against environmental destruction, are incomplete for man without considering his compensatory social cultures for maintaining viability and reproductivity against climatic excesses and deficiences in light, heat and humidity.

The evidence and discussion in the first paper demonstrated the thermo-bidynamic origin and evolution of bisexual differentiation in animals (through chromosomes and gonads) which, with increasing autogenous thermal regulation, extended self-determination in reproductivity against the sexually reversing and unreproductive effects of climatic excesses and deficiencies of heat, light and humidity. The evidence also showed how reproductivity of different species is adapted, for estrus and gestation, to special ranges in such conditions, through visual and probably cutaneous neural increases and decreases of pituitary-gonadal cycles. Seasonal estrus is excited in northern zones by a long series of daily increments of solar light with adequate supporting heat (February to June) in animals of short gestation (birds, carnivora, rodents) and probably daily decrements of light and heat (October, November) in animals of long gestation (ungulates), so that the young are born in favorable seasons for food and growth (spring, summer).

Man is unseasonally reproductive, largely through the artificial control of light, heat and food extending cerebral domination over autonomic functioning. However, he undergoes autonomic limitations of reproductivity under severe solar and climatic conditions comparable to lower animals. He is most prolific under supporting ranges of heat, light, humidity and nutrition, with sexual reductions extending to complete impotency as such conditions grow excessive or deficient. Primitive man migrated farther into northern and arid climates which, under annual solar cycles, produce great seasonal variations in light, heat, humidity and food, as he invented adequate means for making fire, clothing, shelters, and killing or cultivating and preserving food. But these abilities were not sufficient to protect the constancy of his

reproductive functions through the long, cold, dark monotony of winter, as it repetitiously brought confusion of visual imagery, self-doubt and depression, with starvation, malnutrition, impotency, disease and a high toll of death in young and old. Not even modern civilized man's vast improvement in heating, lighting, home and city building, communication, transportation, food variation and medical therapy have been sufficient to completely compensate for the depressive effects of prolonged deficiencies of solar heat and light.

Such physiopsychological, anti-reproductive stresses and depressive frustrations have been more or less mastered by a counter-balancing psychophysiological culture of hopeful, faithful, wishful visualizations, dramatizations, religious beliefs and sacrificial rites, sports, dances and colorful arts, that excite compensatory cardiovascular-respiratory-hemodynamic emotivations giving pleasurable encouraging feelings of "light," "truth" and "warmth" conducive to potency.

Those primitive and ancient civilized and modern civilized peoples have been most prolific and dominating of lands who have cultivated a hearsay about supernatural good and evil spirits, gods and demons. They have universally endowed their gods and demons with lawless supernatural powers for controlling material conditions, with a weakness for being influenced by sacrificial rites and symbolical arts of forceful or persuasive sympathetic magic that suggest bringing about the desired result. The evidence of anthropology (Frazer, 1922, and many others) has amply shown that man has tended to believe that whatever environmental condition eases the work to live and supports viability and reproductivity is motivated by a good, light spirit, and whatever increases the work to live and is desctructive to viability and reproductivity is motivated by an evil, dark spirit.

In tropical and semi-tropical arid lands droughts are motivated by evil spirits and rain clouds by good spirits, whereas the reverse beliefs are held in rainy lands. When the sun grows too strong his great spirit is felt to be offended and enraged, and when too weak he is sulking or defeated. When vegetation dies, its spirts and the mother earth's spirit are depressed, and when vegetation grows under the fructifying rain and warm rays of the sun, their spirits are happy. The good spirits need to be humored by special kinds of flattering and exciting sacrifices to give man what he needs for viability and reproductivity, whereas the evil spirits need to be driven off by threats and signs of loyalty to the good spirits. The greater their indispositions the greater the

sacrifices required to humor spirits, the maximum being bloody sacrifices of enobled humans (the child of the king or king himself or a specially prepared king substitute). Animals are less potent offerings.

The sun god is weakest in light and heat and driven to his greatest distance in the winter solstice by the demons of darkness and cold, and he needs bloody sacrificial rites to revive his strength and induce his return (or rebirth in far northern lands) to conquer his enemies. Again at the end of winter further great sacrifices are needed to give him additional strength to revive the fecundity of the earth spirit and resurrect the spirits of vegetation and increase reproductivity in general.

The influence of northern European, solar, human, animal and vegetal sacrificial rites upon such Mediterranean rites and the emergence of the present systems of Hebrew and Christian rites around the two annual critical sun and earth periods for reproductivity has been amply presented by Frazer (1927) and Breasted (1934). The assumption that imitative *borrowing* and habit of thought is sufficient explanation for religious culture, held by many anthropologists, fails to consider the counterbalancing dynamics of special psychophysiological compensations for special physiopsychological environmental stresses. Naturally, evolution in social culture is determined by ontogenetic recapitulations of phylogenetic determinations, and is more progressive, as shown by Freud (1918) and Unwin (1934), in knowledge and drive through exogamous limitations of sex.

When culture protects viability and reproductivity it tends to repeat itself so long as it is successful. Throughout anthropological evidence, the use of personified light and heat symbolism compensates for the depression of viability and reproductivity from such environmental deficiencies. Symbolical rites are specialized for emotional excitation, through conditioning reflexes, against special causes of emotional depression (Kempf, 1931). They have their most important roots in the need of heat and light for adequate pituitary gonadotropic secretion, and are combined with sacrificial pain and blood for emotional exctiation.

The need of men and women to group together for exciting in each other similar religious beliefs is based, as previously shown, on the heterosexual individual's physiology, psychology and sociology. Male and female children and adults are stimulated to function easily, vigorously, pleasurably, courageously, confidently and harmoniously, with

high integrity and visual perceptual clarity, giving themselves feelings of "light," "warmth" and "rightwayness," when they can successfully exchange, as needed, voluntary and involuntary signs of sympathy, admiration, respect, fidelity and love with their true love-objects, which include their gods, heroes and other good spirits. The words used to express such conditions are *strong-hearted, warm-hearted, spirited, inspirational, light, true, sweet, good, beautiful, lovely, living in grace.* They show identifications of each other with the acquisitive and assimilative needs of life. The direction of growth, work and learning is then towards greater heterosexualism, viability and reproductivity.

In contrast, when efforts at exchanging encouragements are rejected, the effects are inhibitory and conflicting, and functioning becomes hypotonic, depressive and laborious, painful, confused, self-doubtful and anxious, with visual darkness and feelings of coldness, sadness, hopelessness, gloominess, unreality and bitterness. The words used to express such conditions are *cold, indifference, lost in darkness, lost in sloughs of despondency and despair, outcast like swine or excrement, living in disgrace.* They show identifications with avoidant and eliminative compulsions of life. The direction of the emotivation of life is then regressive, from heterosexualism to homosexualism to narcism, as forms of emotional hermaphrodism. If this regressive trend continues, hopelessness, impotency and sterility or amenorrhea follow, with increasing tendency to malignant dissociation of the personality (dementia precox) ending in cloacal hermaphrodism with its degenerate hallucinated imagery in extreme cases. Man's viciously artful production of the confused, schizophrenic state in his kind is based on group condemnations forcing, through intensity and repetition of suggestion, a conflicting visual identification of self as evil instead of good, thereby damaging narcistic integrity beyond its self-clarifying and self-righting powers.

The weak reproductivity of blind humans is an affirmation of the importance of visual stimulation. Retardation of growth and sexual maturation has been demonstrated in blinded young rats (Browman and Browman, 1944).

The culture of spiritual symbolizations of *light* and *warmth* in social communications, inspired by hope in religion, science, art and philosophy, and cooperative, fraternal, equalitarian, social organizations, produces a higher consistency of cerebral visual integrity, hence greater

endocrine energy release in support of reproductivity against environmental extremes, so long as such cultures do not in themselves entail too complex responsibilities and become causes of great class superiorities with anxiety over failure to make clear, visual discriminations. Where reproductivity is supported by faith in the vision of future continuity of a spiritual form of personal life after death of the body, and limited to altruistic relations, the whole trend is towards greater reproductivity with greater constructive psychophysiology of the personality, hence greater social organization.

SUMMARY

In the previous paper evidence was presented showing the thermobidynamic origin and evolution of bisexual differentiation from hermaphrodism to heterosexualism. Gametes, zygote, and every cell and organ and the mammalian organism as a whole, are *chromosomally* bisexually determined with M/f or F/m dominance. Every organ is also gondally bisexually determined with M/f or F/m dominance. and in cortically dominant man every function is furthermore socially sexually *conditioned* in M/f or F/m directions.

Since all chromosomes are active in the determination of prenatal and postnatal growth, every cell, organ and the organism, and every attitude and act and thought of the personality, is M/f or F/m inclined for reproductivity. Sexual functioning is therefore as thoroughly holistic as self-preservative functioning and extends more or less actively throughout life.

In this paper is shown how man recapitulates, from unicellular gametes and zygote, through multicellular embryonic and fetal, to postnatal infantile, adolescent and adult growth and personality development, the decisive steps in bisexual differentiation (gonads, gonoducts, cloaca, genitals, soma and nervous system) of the phylogeny of his antecedents. Each step in sexual ontogeny must be completed in its order, in harmony with other phylogenetic orders, before the next step can emerge, otherwise distorting fixation occurs.

It was shown that it is of the utmost importance for the practical development of home and school education and the medical and social sciences to know the bisexual nature of these steps in highly impressionable infantile and adolescent development, in order to work in harmony and not in conflict with them for the proper orders of social

sexual conditioning of the personality. Then only can we understand the physiopsychology and psychophysiology of normal and abnormal man, and the meaning of his socially constructive and destructive, conscious and unconscious compulsions in life and their effects in health and disease.

I have shown that Freud largely ignored, as he admitted, the natural course in man of ontogenetic recapitulations of his phylogeny, in order to explain the differentiation and development of infantile sexuality as a transference of libido determined by its sexual affections with its parents. He therewith failed to consider the physiopsychological homology in males and females, of the different, vascularly distensible and muscular parts (corpora cavernosa and corpus spongiosum) of the penis and of the clitoris and vulva, for hermaphroditic to heterosexual differentiation.

The great importance of the similarities and differences in these two parts of the genital organs is shown by the different rates of their growth and of their lower and cortical neural integrations, under the same chromosomal and gonadal determinations and under opposite hormonal determination. The corpora cavernosa develop more rapidly than the corpus spongiosum, and the two halves of the corpus spongiosum unite around the urethra under androgens and remain patent under estrogens. These bisexual differentiations are established early in embryonic development, and continue normally in postnatal growth in orderly physiopsychological differentiations which include a slower rate in representative cerebral cortical neural development and integration. The cortical development recapitulates the order from cloacal, hermaphroditic narcism to genital heterosexualism, and needs freedom of social experimentation in the play learning of love-making in order to arrive at heterosexual mating potency without severe functional fixations at lower levels.

Freud was the first to describe the narcistic differentiations of pleasurable oral-gastric, recto-anal, cystic-urethral and genital functions in the infant, but he did not consider that the last three differentiations in narcistic self-sufficiency are differentiations in cloacal hermaphrodism. The corpora cavernosa may be active in penis and clitoris erections with nursing or playing, but the bulbus urethrae in the male and bulbus vestibuli in the female develop more slowly and continue emotionally inactive until the gonadal augmentation of adolescence. Hence Freud was never able to make a consistent, *truly biological*

comparison of the bisexual differentiation of man and woman. He invoked an *aggressive libido* for both sexes, and claimed as necessary repression and introversion in woman in order to increase vaginal erotism and reduce clitoris erotism.

The feminine male and masculine female are corpora cavernosa erotic but corpus spongiosum impotent with ejaculatio precox in the former and frigidity in the latter, and the masculine male and feminine female are potently tumescent in both parts, hence Freud's theory is discredited by the homologous physiopsychological functioning of the two vascular parts of the genitals in the two sexes.

I have shown that in adolescence the great increase in gonad hormone production, and the great M/f or F/m difference in androgenic estrogenic ratios, increases growth, tumescence and contractile functions of the corpus spongiosum and its musculature in the bulbous urethral part of the penis or in the bulbus vestibuli of the vagina. These functions are based on cardiovascular-emotional support and are indispensable for the maturation of the heterosexual attitude and production of orgasm. They are subject to consistent or contrary excitatory or inhibitory social conditioning through cultural seduction and moral approvals and disapprovals of the prospective erotic attitude, as it passes through the different levels of bisexual differentiation.

The normal infant is organically M/f or F/m, but its cortical integrations are still hermaphroditic and its psychophysiology is narcistic and autoerotically impulsive. It continues to develop more or less vigorously (without a Freudian latent period) well into adolescence, in the pattern of self-fertilizing hermaphrodism with imaginations and play at being both sexes making love to itself. It then differentiates itself as narcistically homosexual (loving its likeness), in which period it tends to pass into the masculine attitude when stronger and the feminine attitude when weaker than its lover. The behavior of the homosexual transition is characteristic of alternating hermaphrodism, and the behavior of its later transition to heterosexualism is still strongly narcistic and reversible, comparable phylogenetically to the level of reversible heterosexualism. This attitude is followed by irreversible heterosexualism in maturity. Then the personality and reproductivity are completed by altruistic cooperation and union with the opposite sex.

I have shown that each stage in bisexual differentiation is determined by ratios of gonadal hormones in relation to thermal and emotional regulation. This is a far more biological conception of the bi-

sexual differentiation of man than has yet been offered. It gives biology, psychology and sociology an approach to the study of ontogenetic recapitulation of phylogeny in human culture and its effects upon man for integrity and insight, health and disease, that is consistent with other biological sciences.

In man, bisexuality is differentiated by the bidynamic A+ and C++ or A++C+ constitutional ratio, and by the AAXY or AAXX chromsomal ratio, by the M/f or F/m gonadal ratio, and by the M/f or F/m cultural conditioning of the developing ego-attitude through approvals and disapprovals (which can be consistent with the constitutional chromosomal and gonadal direction or more or less reverse to it). The earlier in embryonic or postnatal development the gonadal reversal, the greater the extent of organic reversal. The earlier the postnatal cultural reversal the greater the effect on the ego-attitude. We must therefore estimate the M/f or F/m ratio in man; at the constitutional bidynamic level by his energy storage and release in work against opposing stresses; at the genetic level by the hereditary family history; at the gonadal level by the development of his genital and other sex characters; and at the social attitudinal level by his aggressiveness or submissiveness and self-reliance or dependability upon social approvals and disapprovals. Bisexual differentiation is a very complex process involving many factors at four levels of organization and not the simple libido scheme that Freud taught.

Semipotent ejaculatio precox in males and bulbo-vestibular indifference in females are generally the result of either gonadal deficiency or social inhibition, maintaining inhibitory vascular-emotional detumescence of the corpus spongiosum. Complete impotency includes inhibition of tumescence of the corpora cavernosa.

A biological concept of the processes of organization, development and maturation of the sexually socialized ego-attitude must be developed by psychology and sociology. This is necessary in order to have sciences of the personality and social organization that are consistent with the morphological and physiological, phylogenetic and ontogenetic determinations and their effects on health and disease. These principles discredit many psychoanalytic, psychosomatic and other psychological speculative preconceptions that make it impossible to treat deeply malconditioned, narcistic attitudes which often lead, upon social defeat, to regression in pleasurable hermaphroditic attitudes, ending not infrequently in cloacal erotic degradation.

Northern man's culture of religiously held beliefs in spiritualism has been primarily motivated by psychophysiological needs to maintain viability and reproductivity against the physiopsychological depressions of great environmental stresses, particularly the cold, darkness and malnutrition of winter.

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PSYCHOTHERAPEUTIC PROBLEMS IN GYNECOLOGICAL PRACTICE*

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One of the most common problems in gynecology, is the complaint of *backache* in women. We often see women who complain of constant backache. If we examine these patients, we find that a certain percentage have absolutely normal genitals, the uterus is anteverted, movable, the adnexas are normal. If one wishes, he can X-ray the spine and find no abnormality. However, if one tries to ascertain the occupation and the mode of life of the patient, one will soon discover that these backaches are due to great physical strain, a condition which can easily be redressed by giving the patient advice on "how to live." However, one may find that concealed behind these backaches there is a series of psychiatric problems, such as, trouble with the husband, trouble with the boy friend, trouble with the mother, etc., whose sympathies the patient seeks to awaken by running from doctor to doctor. A very tactful and thorough anamnesis is therefore necessary in every gynecological case, even at a great expense of time, and even in so simple an ailment as is the common backache. Unfortunately, a backache in a woman whose genitals are obviously normal represents only a part of the problem. There are many women whose uterus is not anteverted but retroverted where the genitals are in a retroposition. It may happen that a doctor would reveal to the patient her condition, which is a completely normal one, especially in those women who have borne children; then the trouble commences. The retroposition of the uterus is now blamed for the backache, – an operation with the shortening of the ligamenta rotunda is sometimes recommended and performed, and later the patient wonders why she has a recurrence of her symptoms. She continues to complain, despite the fact that the uterus is now in ante-position. In

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many operated cases, we see that the uterus after a few months, slides back into the old position. Some patients are naive enough to think that the "unsuccessful" operation was the cause of the continuance of her backaches.

Today we are certain, and Walthard was one of the first to emphasize this fact, that backaches have nothing to do with the position of the uterus, except in cases where the uterus or its adnexa have developed tumors. There is no need for the Alexander Adams operation in such cases, since we know that an ante- or retroverted position of the uterus is the physiologically normal position in thousands of women who have no complaints. I believe that those who claim to have been cured by this operation are not cured because of a changed anatomy, but because of the psychological effect of the operation itself.

Let us now proceed to the systematic enumeration of psychiatric problems in gynecology. I shall commence with *the first appearance of the menses in the young girls.* In many cases this first bleeding represents a perplexing problem. Girls discuss the question of menstruation among themselves and frequently experience embarrassment and concern about it, but a tactful interpretation by the mother or a proper enlightenment at school can help the girl solve this problem easily. The doctor is very seldom called in – and only in those cases where mother or daughter show some signs of abnormality.

Should the young girl fail to have her menses, at a time when her classmates and friends are menstruating, let us say at the age of 13, 14 or 15, the norm for this country and climate, we then must start with psychotherapy combined with endocrinological treatment. The earlier we start this treatment, the better the result. Anatomically, one usually finds underdeveloped genitalia. I need not mention here that the approach to a young girl for examination of the genitals must be cautious and tactful, and that only a rectal examination should be employed. Abnormalities, besides the mentioned underdeveloped genitalia, are seldom found. Nevertheless, one must always search for abnormalities.

This reminds me of a tragi-comical case which was referred to me because the patient had not menstruated. Upon examination, I found that the vagina was completely missing. The patient, no longer young, told me a peculiar story. She had been married for two years. Her husband, a much older man, died and she wished now to remarry. She feared, however, that there was something wrong with her. I asked

her how cohabitation was performed during her marriage. She answered that her husband had tried at different times and that he finally decided that he was "too old for intercourse." Three years later he died. Now this woman was mentally disturbed. I was able to cure her completely of her inferiority complex by the non-operative procedure, first described by Robert F. Frank. This is accomplished by the use of glass rods which are pressed against the mucous membrane where the vagina should have been, continuing daily for about half an hour. Over a period of four months, by changing the glass rods slowly to larger and thicker ones, I gradually developed a blind sac which was as broad as a normal vagina passable for two or three fingers and nearly as long as the normal vagina.

In any discussion of menstruation, it is wise to inform the young woman that any shock may either cause the onset of her period or arrest it. When patients come to me in a highly excited state because as a result of some shock they have started to bleed, I generally relate the following incident. As a young military surgeon, I was charged with the care of women workers in an ammunition plant. One day, an explosion occurred on a floor where 45 women were at work. Two were killed by this explosion and of the survivors, those women who prior to the accident had been menstruating, ceased to menstruate, while most of the other started bleeding. This story serves to illustrate the sensitiveness of the female organism to shock and also the fact that bleeding in such instances need not be considered as an alarming symptom.

The effect of shock upon the nervous system of women is evident in many cases of *dysmenorrhea.*. One must exercise caution in evaluating cases where an anatomical background for the complaint exists. I saw such a case recently. A girl of nineteen came to me with complaints of severe cramp-like pains during her menstrual period. She told me that at that time she was very irritable, and because of the pains, had to remain in bed. She was eager to know whether these pains were due to her "tipped" uterus, a diagnosis she had learned from another physician. My examination showed the uterus retroverted but fully movable and that this factor could not be the cause of her complaint. Through a more detailed anamnesis, I found that her pains had begun four months ago, when she received the news that her boy friend had been killed in action overseas. This young girl needed psychotherapeutic treatment, and certainly not an operation.

I shall now proceed to the profoundly important psychological effect on a young woman of *the first cohabitation.* At this stage, if there are difficulties, psychotherapy in gynecology is the only therapy possible, and therefore no operative procedure should be considered. The first cohabitation performed in a rough manner may render every following cohabitation unpleasant, a reaction that may persist for the rest of the woman's life. I use the term unpleasant advisedly, because from the medical standpoint these cases are so slight, that they seldom reach the doctor. One discovers them as a kind of side-line problem when women report other complaints. Most of these women have been married for many years and have borne children, yet they complain they have never experienced an orgasm, that they submit to intercourse as a matter of duty, or because they desire to have children. When the physician attempts to ascertain the reason for their lack of response, one invariably elicits the reply, "It is painful." By psychotherapy, we can successfully treat this very common condition. In such cases it is correct to tell the patient that because of her fear complex, she is always inclined to contract her muscles before and during cohabitation, which causes her to suffer pain; but that by pressing down her vagina, as in going to stool, her vagina would open, the muscles would then relax and she would feel no pain. Following this explanation, one should demonstrate on an examining table with a gynecological speculum how easy it is to introduce this large speculum into the vagina, when the patient cooperates by pressing down. These patients are very grateful for this help and in many cases report later that they have experienced orgasm for the first time. These cases are characterized by some gynecologists as "light" cases. That is a matter of opinion; for many husbands, particularly those who are sexually experienced, – do not understand why their wives are so unresponsive to the marital embrace. As a result of this disappointment they may break up their homes, causing misery and misfortune to their families.

The more serious cases are those we know as *vaginism.* This condition was first demonstrated many years ago in a medical motion picture by my teacher Walthard. In this film, one sees that by merely touching the external genitalia with a sponge stick, contraction occurs immediately. I have seen the most peculiar surgical operations performed for this disease, which is purely neurotic and which can never be cured by a surgical procedure. The operations usually start with an incision into the hymen, then follows an excision of the hymen. I have also seen cases where an excision of the labia minora and of a part of the labia majora was performed. In one case the vagina

was partly detached from its adjacent tissue and then sewed on again with the result that no sensitivity remained in the vagina. Needless to say that by psychotherapy alone this condition of vaginism can be completely eliminated.

This knowledge should not be restricted to the gynecologist or to the psychiatrist, but should be imparted to the general practitioner as well, because we gynecologists see only the extreme cases, cases where various minor operations have already been performed unsuccessfully.

Many cases of *frigidity* can be traced to fear complexes, or to repulsive reactions toward the partner's approach. These difficulties can be overcome by the use of well-known methods of psychotherapy, without any resort to medication. If one uses medication, even in the lighter cases, one runs the risk of being unsuccessful with psychotherapy, which I consider to be one of the major tools in medical science.

At this juncture, I wish to mention another symptom complex, which is not based on fear, but on family conflicts. As far as I could observe, it affects women up to the age of fifty. The disease is *pruritus* of the external female genitalia. The best illustration is the following typical case. A woman was referred to me some time ago, by a dermatologist. The dermatologist at first examined her for gonorrhea, which he excluded, then for trichomonas vaginalis, which he also excluded, and then he commenced treatment with vaginal douches and with compresses using various medications. When this produced no result he prescribed ointments. Finally he resorted to X-ray treatment. Since the patient's itching did not abate, he sent her to me with a detailed statement of his treatment of this case. My first examination confirmed the fact that there was no infection. Then I started from the psychotherapeutic angle. The patient related a long story of her marital difficulties. She believed that her husband was unfaithful. She thought he did not love her as much as before. She had no actual proof of this but she found his attitude colder than in the past, although she conceded that he had tried his best to help her when she developed her disease. It took me exactly three consultations to cure the patient, who had been suffering for nearly half a year. It was possible to establish harmony in the patient's marriage. She was extremely grateful and was able to resume her former occupation.

The reasons for a psychogenic pruritus are manifold. I have seen cases where a woman did not want to take her widowed mother into

her household and reacted with pruritus. In another case the husband was unfaithful etc. The importance of eliciting the patient's psychological problems cannot be emphasized enough.

And here I come to something fundamental in the treatment of all these cases by the gynecologist. He may treat border-line cases very successfully, if he has the necessary understanding of the pathology and the knowledge of the proper therapeutic techniques, but he must also be able to recognize those cases which should be referred to the psychiatrist. The choice and decision are simple. The gynecologist trained in psychotherapy either can cure the patient in a very short time or he must refer the patient to the specialist in psychotherapy. The gynecologists are not, and should not be, competitors of the psychiatrist; because of his special training, he is in the position of treating severe cases successfully.

As you will realize, ladies and gentlemen, it is impossible in my limited time, to cover the whole field. I shall, therefore, eliminate here the discussion of border-line cases, where medication and psychotherapy go hand in hand. Instead I shall continue with the question of *abortion.* As is well known, gynecologists are often approached by excited women with the request to perform an abortion. In many cases the gynecologist fails to ascertain why the particular woman wishes an abortion performed. I have often found that fears and difficulties in this matter can be of entirely fictitious nature. After a conference with the patient the woman often becomes uneasy, changes her mind, and later she may be extremely happy to have had her child. I warn especially of the psychic shock of an abortion in the first pregnancy. Psychiatrists see, I am sure, cases of morbid self-reproaches and depressions after such an abortion much more often than gynecologists. There are, on the other hand, those cases where not an uncertain, but a very real depression exists, and the burden of a child appears to the woman absolutely unbearable. There, ladies and gentlemen, not the gynecologist, but the psychiatrist alone can decide the weighty question of the indication. In my opinion, the gynecologist has to decide which cases should be seen by the psychiatrist. Then if the psychiatrist is in favor of an abortion, the gynecologist is acting only as the "technician" in the matter. I am aware of the fact that according to our laws, the great majority of cases requesting an abortion have to be rejected. Nevertheless, the fact must be stressed that the gynecologist must possess full psychological understanding, in order to maintain his influence over the patient's decision. He must be

able to select the few cases he considers either too weak or too mentally unbalanced to continue the burden of a pregnancy.

The reasons given by women for desiring an abortion are often peculiar. There is, for instance, the fear that the figure will not be the same after childbirth; that the breasts will remain large; that the vagina will lose its shape, etc. – and I must say that the husbands often are of no great help in these cases; they either confirm the women's queer ideas, or even implant them. We also often find in women the fear of the childbirth itself, especially of pains during delivery. One woman may tell another, with or without cause, how terrible labor pains are, that she would never go through this agony again, etc. By these tales, she may create a fear complex in our patient. It then becomes the task of the gynecologist to convince the patient that these ideas are exaggerations, that the gynecologist is willing, if she so desires, to give her a painless delivery, by using twilight sleep or the like. It takes tact and a bit of psychotherapy to impress upon the woman the fact that the highest achievement in her life is childbearing, and that her greatest fulfillment in life comes from the rich experience of raising children. I like to emphasize one fact, by which I usually prevent the woman from running to an abortionist, namely, that in marital life, in the long run, the real bond is not the sexual fulfillment, not the preservation of the figure, but the child, and that in the struggle of the sexes, a sympathetic mother can always rely upon the love and devotion of her children, rather than upon the questionable faithfulness of her husband.

It is much more difficult to treat cases where *sterility* has not responded to surgical or endocrinological procedure. Women who are thus thwarted in their highest goals to achieve motherhood, are to a great extent border-line cases. The average gynecologist is often unable to handle such cases adequately. It is our duty to calm these women and to enlighten them adequately so that they do not become depressed and do not suffer too much under an inferiority complex. Sometimes, the only solution is to advise to adopt children.

However, the gynecologist should never declare a patient sterile unless he has absolute proof, as in a case of hysterectomy or removal of both ovaries. The gynecologist can only say that it is highly improbable for the particular woman to conceive. I have seen cases of underdeveloped genitals where the uterus was no bigger than a cherry, where there existed a highly irregular menstruation, where the patient had an amenorrhea for six months or a whole year, cases where

endocrinologists had tried in vain to produce a period by the use of hormones, and where a thorough gynecological examination revealed why the therapy had failed: the patient was unexpectedly pregnant. I shall always remember the case of a woman, thirty two years old. She was abnormally tall, had an abnormal growth of hair, especially on her chest, had a deep masculine voice. For years she had been under the care of endocrinologists because of menstrual disturbances. At one time, she had failed to menstruate for two full years. After a divorce she had remarried and a few months later asserted to her doctor that she "felt life." At first he did not believe her. I can assure you, it was not an easy task to persuade this patient to go on with an undesired pregnancy, when all her life she had been assured by physicians that she would never conceive.

I should like to stress here how important it is for the gynecologist to discuss frankly with the patient the possible consequences of a gynecological operation. The patient must be informed about the psychological factors involved in hysterectomy. She must be told that this operation will have no influence on her married life, that the libido, for instance, will continue, etc. If the gynecologist fails to make this clear to his patient, I think, he creates a basis for emotional conflicts, for many women after a hysterectomy have the idea that they are no longer sexually desirable. The gynecologist thus may be able to prevent the development of an inferiority complex, from which a patient might never recover. This inferiority feeling may not even come to the attention of the doctor, but it may nevertheless, affect the woman's marital life. What was said about gynecological operations also applies to X-ray treatment. I cannot confirm the opinion advanced by some authors that X-ray castration destroys the libido. I found, on the contrary, that some cases have a tendency towards an increased libido, when the fear of pregnancy has been eliminated. There are certainly cases of diminished libido after the artificial cessation of the menses, but this has nothing to do with the operaton or with X-ray treatment, but to a general extent to the changed attitude of the male partner. Important as this matter may be, I cannot go into detail at this point.

In proceeding systematically, I shall now discuss the age group between 45 and 55, the time of the natural *cessation of the menses.* Among these women, we often see a fear complex concerning future sexual life. Will they be able to continue sexual intercourse, will they remain sexually desirable, will the libido disappear, will the facial ap-

pearance change and become more masculine, – all questions which to them seem to be of great importance. More intelligent women ask for literature on all these questions and desire to know how the menopause will affect their future life. As far as I know no book has been written for the lay person which would answer all these questions. And it may be a good thing, because discussion of the climacteric symptoms may even implant fear complexes into the woman's mind, which is undesirable. It is, however, the task of the gynecologist, to assist these patients in growing old "gracefully." This is a relatively easy task if there are children or grandchildren, for one can lead the attention of these women in that direction, but it is much more difficult with childless women. By and large, this age group, as well as that of women over 55 require a great deal of attention from the psychotherapeutic point of view, not because of their fears and their gradually diminishing ability to work; but because we see, over and over again, that alongside with the physical regression a sexual change in the marital relationship of these women take place. I need not tell you how often divorces occur in this age group, how often the husband falls in love with a very young girl or, in rarer cases, women of advanced age are attracted to partners many years their junior. To women of this age, the function of the gynecologist should be that of a counselor. We should assist them in adapting themselves to an active participation in the life of their community, and help them in turn to understand the community's attitude towards them. We must emphasize that lessened physical vigor at this stage of life is no handicap, that with maturity comes greater understanding and sympathy for other human beings, and that in every community there is plenty of room for them to make their contribution.

Most women who have reached middle age need guidance. I am sure that the general practitioner, the psychiatrist and the gynecologist all encounter the same problems in these patients. They seek advice for some imagined condition, which we know in most cases is the result of a conflict. The latter may be due to their inability to direct the lives of their grown children as they used to – a very common occurrence. I shall present a case in point. A woman of 53 years was referred to me because she had become very "nervous." She suspected that she had an internal tumor. She feared that she would no longer be able to work. My physical findings were normal. Closer investigation revealed that her complaints arose from her desire to elicit sympathy and love of her daughter, that she wished to direct her daughter's intimate life with which she wholeheartedly disagreed.

It became my duty to explain to this patient that she had fulfilled her maternal duty to her daughter by expressing her views, but that she should not assume the right to interfere actively in her daughter's marital life. After several consultations I succeeded in reestablishing a normal relationship between mother and daughter. The mother then became well again and her fear complexes disappeared.

I could add here cases where patients' complaints have no physical basis and are associated with a depression or an inferiority complex, cases which are due to unsolved difficulties with parents or in-laws. I recently saw a case of depression in a girl who had eloped and suddenly developed the fixed idea that she would not survive her twenty-second birthday. She therefore refused to have children, showed irregular bleeding, etc.

It is evident, that in order to treat these patients, time and patience are essential. Above and beyond that, the gynecologist must acquire some knowledge in the techniques of psychotherapy, (which must not be confused with bedside manners).

As I look back I see that in my own specialty, in the last twenty-five years many fundamental changes have taken place. To mention but a few pertaining to the field of gynecology: the plastic operation of lifting the uterus has largely been abandoned. Operations for fibroid tumors, which are not very annoying in their symptoms, are now often treated by conservative methods or have been replaced partly by X-ray sterilization. The many operations which the gynecologist formerly performed for inflammation of the adnexa, have been abandoned in favor of more conservative procedures such as chemotherapy or diathermy, which in many cases give excellent results. Furthermore, with the extensive use of sulpha drugs we see and may expect a much more reduced frequency of inflammatory processes on the adnexa. The prognosis of the much-feared ascending gonorrhea in women has markedly improved and may improve even more by the early medication with sulpha drugs or penicillin. The so-called Wertheim operation, known to gynecologists throughout the world as one of the most ingenious and difficult of operations, has been largely abandoned in favor of radium and X-ray therapy. Thus the surgical field in gynecology has been narrowed in favor of more conservative methods. In these times of tension, the conservative treatment has been enriched by the addition of psychotherapy, which has come more and more to the foreground. To-day it is a powerful tool in the treatment of women and is as essential to the gynecologist as surgery.

I realize that the future training of the younger gynecologist will be a complex one. He must be a very able examiner in this specialty. He must include in his examination a complete psychological exploration. Even in the face of positive physical findings, psychotherapy may be indicated, and the gynecologist, therefore, may need a working knowledge of psychotherapy; especially he must be able to diagnose borderline cases. How much psychiatric training this will entail, I dare not decide, but I hope to have made it clear that the future gynecologist will have to be an alert and experienced psychotherapist.

Discussion

Karl Kautsky, M.D.

New York, N. Y.

I come from the same school of thought as Dr. Furst; like him I have been a pupil of Max Walthard, the highly gifted Swiss gynecologist who introduced Dubois' ideas of psychotherapy into gynecology. Therefore, I have nothing essential to add to Dr. Furst's paper which surveyed the whole field of gynecological psychotherapy. But I want to emphasize certain points which are too often pitifully neglected by doctors practicing gynecology.

We "execute" surgical gynecology, we treat women with diathermy, with hormons and vitamins, we cauterize, and douche, and scrape, but we often ignore the psychological aspect of the disorder. We try to remove superficial symptoms instead of penetrating to the roots of the evil.

Since Dr. Furst mentioned *dysmenorrhea* only briefly, I want to choose this condition as my point of departure. We call dysmenorrhea any kind of discomfort during the menstrual period; from slight general malaise and headache to a severe colic with vomiting, fainting and migraine; from moderate tenseness to a deep depression. Ordinarily, dysmenorrhea is treated by the practitioner as an organic disease which is supposedly characterized by certain changes in the genital organs as retroflexion, hyperanteflexion, hypoplasia of the uterus, stenosis of the cervical canal etc. It is easy to operate on a retroflexion, to do a dilation or dicision on the cervix; but these procedures do not cure dysmenorrhea.

Furthermore, we find very frequently the same changes in the genital organs without a dysmenorrhea. Some of these are normal

stages of development which may have persisted longer than is considered normal. On the other hand, we meet severe dysmenorrhea in cases which show absolutely normal genitalia. Not so rarely the same person may at certain times suffer from a dysmenorrhea and at other times be perfectly all right.

It sometimes happens that a woman who up to the present has menstruated without any marked discomfort, suddenly develops dysmenorrhea. What is the cause of it? If we can exclude an organic disease, an inflammation or endometriosis, if we take the time to investigate not only physically, but psychologically, we may find that at the time of the onset of the dysmenorrhea the patient experienced some mental shock, a deep disappointment or a similar emotional upset.

In the following, I wish to report briefly the history of one of my cases. A girl, aged seventeen, a devout Catholic, came to see me because of a very severe dysmenorrhea with cramps, vomiting and fainting spells, which, each month, interrupted her work as a secretary for two or three days. Organically, she was a healthy girl, virgin with normal genitalia. She was very shy and silent, seemed depressed and listless. After a while, she gained more confidence and began talking. She had had her first period early, before the age of twelve, without pain or discomfort. Once when she was about fourteen, she went to visit one of her friends, just at the time when she had her menstrual period. She rang the bell and her girl friend opened the door. A few moments later the friend, without uttering a sound dropped dead at her feet.

The patient suffered a tremendous shock from this experience. From that day on, she developed her dysmenorrhea. She also withdrew from all her other friends, went daily to the cemetery to visit the dead girl's grave and considered entering a convent.

Fortunately, it was not too difficult to persuade the girl to give up her "Weltschmerz" attitude and to return to normal life. The dysmenorrhea proved to be a part of a complicated ritual by which the patient commemorated her friend's death every four weeks. After we uncovered the mechanism of mourning, the spell was gone, the dysmenorrhea disappeared spontaneously, without any general, let alone any local treatment. I admit that the circumstances of this case are exceptional, but emotional shock as the cause of dysmenorrhea is by no means unusual. In this war not less than in the last one, we shall always find a certain number of dysmenorrheas or amenorrheas which have developed under the impact of a psychic trauma. A husband's

sudden death; a son missing in action, or the like, may become the cause of severe disturbances of the menstrual period.

But also more trivial causes may prove their traumatic power; defloration contre coeur, lack of orgasm, as well as other unpleasant experiences connected with the genital sphere may be responsible for dysmenorrhea; but so may also be any physical illness, or a too heavy burden of the environment. The acute onset of dysmenorrhea with the beginning of occupational work in young girls is very characteristic.

The genital organs represent only one of many projection areas of psychogenic processes. Everyone knows people who react to discomfort or to excitement with their stomachs, their intestines, their hearts, or with any other organ which appears to be conditioned for the particular affection. But we can understand that from the menarche to menopause – and even beyond that – the genital organs play a particularly important role as a field of projection.

It is not sufficiently appreciated how often seemingly organic symptoms may be only expressions of psychic processes. *Discharge* – even a purulent one – abnormal bleeding, muscular spasms in the region of the pelvic floor, as in vaginism, spasms of the uterus or the uterine ligaments, as in the so called "parametritis posterior," spasms of the bladder or the rectum etc., are too often interpreted as symptoms of a malposition or an inflammation of the organs. How rare are genuine oophoritis or endometritis in reality? Of course, the symptoms are treated accordingly – and are not sufficiently evaluated in their psychological implications.

The local treatment usually tends to irritate the area and to draw the attention of the patient still more to the genital sphere. Owing to this type of therapy the patient may become convinced that she is seriously ill, which impression is fostered by the fact that the patient does not feel better in spite – or as we prefer to say, because – of the more and more intensified treatment.

One of the most important sources of these gynecological disturbances is *lack of the normal orgasm.* During sexual excitement, the blood vessels around the vulva and vagina and within the uterus are congested, the smooth muscles of the pelvic organs are contracted and form a kind of erection. With the onset of the orgasm, all the overfilled blood vessels empty at once, a powerful discharge from the genital organs. The stiffly erected muscles relax at once together with an overwhelming feeling of alleviation and gratification. If orgasm is

not reached, the vascular congestion and the muscular tension may ebb gradually, but not completely; the tension partly persists. Instead of the short brisk powerful flow from the glands, a continuous trickle sets in. The whole chemism of the vagina is changed and fluor albus, the white discharge often sets in. This soon may become infected by parasites (bacteria or trichomonas) whose presence has not been previously tolerated by the normally reacting mucous membrane of the vagina.

The tenseness of the smooth ligamentary muscles, particularly of the sacro-uterine ligaments, grows gradually until the ligaments become tense, thickened and extremely tender. A vicious circle then develops; the irritated ligaments, finally, make sexual intercourse still more painful and less satisfactory. This dyspareunia is one of the main sources of frigidity. Apart from the pain, there is a mounting anticipatory fear of being frustrated.

It is up to the gynecologist or the psychiatrist to find out why the orgasm is not reached by certain women; whether it is the fault of one or both of the partners, or whether it is due to conditions for which neither of them is responsible. In all these disturbances we can hardly exaggerate the social implications. Man is not only a biological and psychological being, but he also has his specific place in the social group. He is not less deeply influenced by his social environment, than by his physical and mental constitution.

The social point of view is in more than one sense significant for us. First, many of the psychogenic gynecological symptoms are so frequent that they gain social importance, especially when they influence the patient's ability to work. Hundred thousands of man (or better: woman) hours get lost every year because of dysmenorrhea alone. Secondly, they may depend on factors of the social environment to such a degree that the doctor who treats the medical aspects only may be unable to compete with the overwhelming force of social conditions. Without effective social therapy, all our efforts of individual therapy may be frustrated.

Here is one example to clarify this point of view: A woman, aged 38, married for six years, complained of discharge, dysmenorrhea, low backache, and a host of nervous symptoms, such as irritability, insomnia, etc. The gynecological examination revealed that the patient, without having suspected it, was still a virgin. She claimed to have regular sexual intercourse, but never had an orgasm. Delving deeper

into the patient's history, we learned that due to a scarcity of living quarters in post-war Vienna, the patient, her husband and the latter's old mother, were living and sleeping in the same room. The mother who suffered from insomnia listened to every sound coming from the couple's bed and accompanied it with questions and remarks. The potency of the husband who had a strong attachment to his mother had always been weak; he himself had the impression that he was performing a normal intercourse, although in reality his coitus took place "ante portas." The wife who had been educated in a convent school did not know anything about sex and was often glad when the infrequent approaches of her husband were over without eliciting some tactless interference from the mother-in-law.

I discussed with the patient the causes of her symptoms and tried to help her to get a large apartment. My efforts in this respect were successful but it was too late; when the husband learned tha the had been unable to deflorate his wife, the poor rest of his potency collapsed definitely. He felt deeply hurt by the "shameless insinuations" of his wife, as he called her very normal sexual desire. As a result, she soon changed into a veritable nymphomaniac. All the dammed up libido broke loose with overwhelming power and washed away all restraint. She found someone else to relieve her from the burden of virginity, obtained a divorce and lost all of her gynecological troubles at once.

One of the most powerful factors inhibiting orgasm is fear of pregnancy. Lack of proper housing, low income, care of numerous children, or old parents, are very common social motivations for the desire to avoid pregnancy. Proper precautionary measures are a powerful weapon in the gynecologist's every-day struggle against the seemingly banal, but extremely frequent trouble sphere of the so-called "little gynecology." In this connection we cannot emphasize sufficiently the social-hygenic value of a careful and adequate birth control.

This is also our best weapon against the social plague of *artificial abortion.* Even if we do not take into consideration the innumerable organic lesions following an abortion, we have to stress the psychological dangers of a procedure to which so many women driven by a blind fear take recourse. As Dr. Furst stated, we succeed not infrequently in convincing the patient who wants to undergo an abortion that it is better for her to have the baby; we thus spare her from belated self-reproach and self-condemnation. These are particularly bitter when, as a consequence of abortion sterility ensues which is not uncommon.

Of course, as individual practitioners we are rarely able to help a patient in a predicament of a purely social character. But we can influence her attitude towards existing and unchangeable circumstances. If she finds a physician who shows an understanding for her problems, who takes the time to talk to her, to explain to her the nature of her sufferings, who saves her costly, and in some cases superfluous, local treatments or operations, she will be grateful and cooperative.

It goes without saying – and Dr. Furst stressed this point sufficiently – that we must make sure that we do not overlook any real organic disease of the genital organs before we start with psychotherapy. On the other hand, any sort of mechanical, pharmacological or operative treatment must always be accompanied by psychotherapy. We have to educate the patient before and after an operation as well as before and after a delivery. If we have the patient well in hand, the question of analgesia during delivery will become much less urgent than the daily newspapers want to make us believe. Psychotherapy is an indivisible part of any kind of therapy.

We must never fail to be extremely careful in what we tell the patient about our findings. Our second case history shows what unexpected and far-reaching consequences may ensue from simple gynecological examinations. It can always be questioned whether we have the moral right to endanger a marriage in giving the stronger, the healthier partner the way free for a happier life, at the price of sacrificing the weaker partner. Although this is by no means the intention of the gynecologist, he bears, to a certain degree, the responsibility for it. We must always keep this fact in mind and must gladly take recourse to the services of a trained psychotherapist, who would share the responsibility with us in cases we do not feel competent to handle ourselves.

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This is a very interesting paper to which we have just listened, but as Dr. Furst infers, it would take volumes to cover the subject.

We are gathered here to exchange our experiences, to give and obtain new ideas and approaches to a problem which is world wide, and which with the progress of civilization and of war becomes more apparent. As our knowledge grows, we widen also the field of its use-

fulness. Let me first take up some of the matters in Dr. Furst's paper, in order to either disapprove, or emphasize, or give my own explanation of some of his remarks.

Every possible cause of the *backache* should be investigated and corrected before calling the patient a "psychoneurotic." For "psychoneurosis" is a much abused term. Sometimes a careful examination plus X-ray is negative, and then a certain amount of rest or a well made girdle is all that is needed. Maybe we must call the patient's attention to a postural error. We specialize so completely nowadays, that we are often unable to look beyond our own specialty. Of course, if an orthopedist or a psychiatrist sends me a woman with a backache, I report on my pelvic findings and feel that it is wrong to go further. If a patient comes to me with an acute backache and a retroflexion for which urgent operation has been advised, I do not hesitate to treat the lumbago and assure the patient that operation is probably not needed and certainly is not urgent. The neuropsychiatric diagnosis must be the last we make. Sometimes the patient who knows she has a retroflexion cannot be cured by any method other than by operation — even if you want to say the operation only worked as a psychotherapeutic measure.

Adolescence and menarche: These are maternal problems; the family doctor, or the specialist who is very close to the family are best qualified to handle them if the parents fail. When no great pathology is present, a few talks and a little explaining (that the parent should have done) will as a rule adjust the matter. In older young women it may be necessary for the psychic effect to produce uterine bleeding even if it is anovulatory. This can be accomplished in every case except in those with an infantile or absent uterus. Infantile uteri never bleed. A woman without a vagina is entitled to a psychic depression, she needs help, which can be rendered only by mechanical methods, as Dr. Furst did, and not by talking to her or analyzing her.

Frigidity: Most women take sexual relations in their stride and need no coaching from the side lines. Women who say that they don't enjoy sex are either lying or are abnormal; the latter cases need the physician's careful study. A nembutal capsule given one hour before coitus, after talking to the young husband, frequently suffices in cases where first coitus has not been accomplished because of fear of pain. Of course, occasional anatomical abnormality must be corrected. Most severe cases of vaginismus need time and patience, but, of course, no surgery.

Pruritus vulvae is as a rule not a disease but a symptom and must be treated as such. Various methods must be tried and after trial an error we may help. Pruritus after the menopause is in many cases a pathological skin condition and as shown recently by Cinberg can be alleviated in most cases by giving large doses of Vitamin A and appropriate local medication. Sometimes estrogen is also useful. These patients should be helped by any M. D. they choose to consult.

Abortion is a subject I hate to discuss. As long as the patient is not sufficiently ill that a reputable colleague and you, yourself, are willing to interrupt the pregnancy at a large, reputable hospital, we must obey the law of the land and refuse to help, despite what mental complications may follow, i. e. whether the patient continues the pregnancy or seeks interruption elsewhere. If the gynecologist and later the psychiatrist treats the patient, by the time the decision is made, it is too late.

Sterility is a difficult problem. I fully agree with Dr. Furst that no woman should be told she cannot conceive unless the uterus is out or the tubes resected, or some other radical procedure undertaken. I have seen some strange things happen. First pregnancy after 18 years of marriage and the like. But, if it looks as though the woman could not have a child she must be instructed in the pleasure to be obtained from adopted children, and of the methods of filling one's life and being happy though childless. This takes time, patience and — repetition.

I am further in full accord with Dr. Furst that patients should be told what effect the *laparatomy* being considered or just performed will have on the sex life and sexual characteristics, and I'm afraid we don't tell the husband often enough either. I know that adult women do not lose their sex feelings as the result of the cessation of ovarian functions. If the woman does not have any sex feeling, a little pretense, a little make-believe helps marital relations and family happiness.

Menopause approaching: The woman who is high-strung and neurotic will suffer more at this time than the normal or phlegmatic one. On this question alone a whole book could be written; each case is a problem unto itself. If you can get your patient to understand that regardless of how annoying her symptoms may become, she need have no fear, and that she will be perfectly well again, you have done a whole lot for her. Of course, many of these cases must have psychiatric treatment such as only a specialist can give.

The woman who malingers and "invents" symptoms so as to get her way in some non-related matter needs firm specialist care.

X-ray therapy is not harmless. X-ray treatment of fibroids should be left to the older age group or to cases where surgery is contra-indicated. In the best of hands diagnosis may be incorrect and a look into the abdomen helps. Some cases get ample X-ray and still need operation later. Of course, sulfonamides and penicillin will lessen the need of surgery and, I hope, also psychotherapy.

I would like to deal briefly with one other phase of this problem. A certain number of cases that need surgery or obstetrical cases that start seemingly normal, after their physical problem is over, become real mental cases. I believe every individual has a breaking point. In some individuals the threshold is low, and the confinement or operation is just too much for them. These are the cases where I and my colleagues are at a loss, and we cry for help from the psychiatrists.

Now for a few cases in point:

There is a young woman (early twenties) in an institution with a severe melancholia and probably more, from which I am told she may never recover. She was intellectual, possibly hyper-sexed, but seemed to have herself under control in every way. I saw her a few weeks before the baby arrived in her cute little home – her soldier husband was in no danger of being sent into the war zone because of bad eyes. Soon after returning from the hospital with her healthy baby, her husband was ordered to another camp, of course, still in the U. S. A., but she broke down. Money was no problem – a baby nurse was on hand – but even in the hands of experts in neuropsychiatry she grew worse. Could anything be done to avoid this catastrophy?

A fourteen year old girl is pregnant. She is a sweet, lovable child with an high I. Q., but no sense of values. Will she break when the baby arrives next February? Can anything be done to prevent a break? Of course, she is not married.

Another woman goes through a major surgical procedure, but even before she leaves the hospital, she develops a depressive state which later grows worse. What about prophylaxis?

Cancerophobia is certainly not rare. Can we do anything to allay this fear and thereby prevent a psychic breakdown?? I have seen all stages. The more intelligent are as a rule easily helped and convinced.

And then there is the woman who has had two laparatomies. I. Ectopic, II. Fibroides; she presents herself with an advanced cancer of the breast. She is not the least upset. Her breaking point has still not been reached. Can I do anything prophylactic for her?

Then there is the patient who thinks she wants children, but finds it impossible to cooperate enough that local treatments could be administered; what can be done for her, or for the doctor who as a consequence of her behavior refuses to treat her?

Maybe some of these cases are only behavior problems. I suppose adults too have behavior problems. There is e. g. the playwright who acts while convalescing every part she has ever written, so that it is difficult to evaluate her complaints.

And so on, ad infinitim. Where we can be of no further help with our medical knowledge or bedside manner, we turn to you psychiatrists and sit back and watch. We can see some brilliant cures – some dismal failures. There is much to be learned in this field but we have gone a long way.

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I agree with Dr. Furst that it is desirable that the gynecologist be equipped to do at least minor psychotherapy. This is necessary, if for no other reason, because some of his patients will be shocked by the suggestion to see a psychiatrist and will flatly refuse to do so.

In discussing psychotherapeutic problems with gynecologists we must not forget that we are talking about two different groups of patients and that those groups overlap only partly. The patients who come to a psychiatrist with their special problems are largely different, and have a different attitude than people who come to a gynecologist's office, even if you would diagnose both groups by the broad term of psychoneurosis.

The number and variety of gynecological problems passing through a psychiatrist's office, is amazing; frigidity, perversions, menorrhagias and metrorrhagias, vaginism, menstrual disturbances, vaginal discharges, dysmenorrhea, etc. It is particularly interesting to watch the disappearance of symptoms of frigidity or vaginal discharge in the course of psychotherapy before those disorders have been even mentioned in the course of the treatment.

One of the great puzzles seems to be *sterility*. I saw in one year two cases of sterility and one of *spontaneous abortion* in women who

became pregnant during psychotherapy. The case of abortion proved to be not quite "spontaneous:" the patient confessed in the treatment that the abortion occurred in the act of masturbation. All sterility patients were convinced – although the psychotherapist did nothing to encourage such a view – that their previous sterility was due to spasms and muscular tension which disappeared in the course of psychotherapy. The same firm conviction was held by a woman physician whose marriage remained sterile and who wanted to have her sterility cured by hypnotism.

The problem of the shock of the *first menstruation* seems to change its aspect gradually; we are meeting now with an increasing number of girls who have psychological problems in connection with the delayed onset of menstruation. Our attitude toward the difficulties of first sex information, including menstruation, has also changed with the changing sex taboos. Nowadays most psychotherapists hold the view that this is mother's job and should be done promptly and without procrastination whenever the girls ask those questions. Personally, I would not hesitate to suggest that if the mother finds the task difficult, the daughter should not be sent to a gynecologist or a psychotherapist, but rather the mother should receive some psychotherapy. A mother with that kind of inhibitions may create other unnecessary conflicts in her daughters.

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In the past three years I have had the opportunity to examine, in Bellevue Hospital, a large number of psychiatric patients from the gynecological viewpoint. I was impressed with the high percentage of endocrine disturbances in this type of patient material, compared with the patients seen in the gynecological department. The same is true with my private practice, where I see many patients referred to me by psychiatrists. There is no doubt that endocrine imbalance predisposes the individual to and often causes mental imbalance and it is, of course, equally true that psychic disturbances cause pround endocrine changes and consequently, often gynecological disturbances cause profound endocrine changes and, consequently, often gynecological disturbances. It is seldom advisable to treat these patients gynecologically, much less locally, and the decision when and how to treat them, should always be made in a consultation between the psychiatrist and the gynecologist.

In observing patients who are under psychiatric or analytic treatment, one often sees all kinds of endocrine and gynecological pathology disappear. This applies not only to pains, like backache, lower abdominal pain, dysmenorrhea, dyspareunia, etc., but also to different forms of menorrhagia and metrorrhagia, and all kinds of cervical and vaginal discharges. The more we learn about the chemical changes brought about in the different body tissues by ovarian function, the easier this becomes understandable. The glycogen content of the vaginal epithelia, for instance, is largely dependent on the ovarain function. All psychic factors which influence the function of the ovaries will indirectly change the lactic acid content and thus the ph of the vaginal secretion. If the ovarian function is poor, the secretion becomes too alkaline and all kinds of bacteria starts to grow causing varied pathological changes. Conversely an improvement of ovarian function brings about a change in the chemical environment, destruction of the pathological organisms and disappearance of discharge – without any local treatment whatsoever.

The importance of ovarian function for the physical and mental health of the patient is more and more understood, and the type of surgeon who likes to "take everything out" is, fortunately, disappearing. However, I feel that we should still go much farther in our conservatism. In operations on the adnexa, one should do the utmost to save ovarian tissue. The presence of a healthy ovary on one side does not give a surgeon the right to remove the other for the sole purpose of saving himself the trouble of a few additional sutures or of ten minutes additional work. Very often it would be possible to get along with a partial resection of an ovary where one sees an extirpation done for no other purpose but speed or convenience.

A similar attitude should prevail in operations on the uterus. The question of total versus supracervical hysterectomy is discussed from the viewpoints of possible development of a cancer in the remaining cervix, of post-operative morbidity and mortality or the decision is made dependent on the skill of the particular surgeon. But other factors being equal, the guiding maxim should always be this: How much is one *forced* to remove, and though we have as yet no proof of an endocrine function of the uterus, we see again and again cases where a hysterectomy is followed by serious ovarian changes and a host of endocrine and psychic symptoms. We must strain all our efforts to preserve menstruation and, therefore, when there is no contra-indication, a myomectomy or fundectomy should be done instead of a hysterectomy.

USE OF CAMPHOR DISPERSION IN THE CONVULSIVE THERAPY OF SCHIZOPHRENIA

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Convulsive therapy is now acknowledged as one of the most effective methods in the treatment of schizophrenia. In some cases, especially chronic ones, this method apparently gives results even better than insulin. Despite this achievement, we still cannot be satisfied with the existing medications used for convulsive therapy. The best of these, cardiazol (metrazol) offers great drawbacks: the possibility of dangerous complications, especially frequent fractures of bones; the difficulty of proper dosage (in the event that the patient does not get a convulsive attack, he experiences an extremely unpleasant sensation, whereas overdosing may be dangerous); in addition, cardiazol is scarce.

The commonly known camphor preparation which is used by intramuscular injection is very unpleasant, for it is slow acting, painful, and it remains in the body a long time. The injection of the solution of camphor in peach oil and ether, which was suggested almost simultaneously by the Kiev Hospital (Professor Frumkin), cannot for many reasons satisfy us either.

The proportion of the peach oil and ether differs in the prescriptions given by different authors. The addition of ether can increase the concentration of camphor to 0.80 gms. in a cc. of the introduced substance. Intravenous injection of ether-oil mixtures together with camphor shows not only the effects, but also the side-effects of camphor. Thus the negative effects of the injection are a result of both camphor intoxication and a direct action of ether, which is introduced intravenously in a comparatively large dose. Using ether-oil mixtures of camphor to bring about convulsive attacks has the following drawbacks: (1) The convulsive dose of the ether-oil mixture of camphor has to be established empirically in every single case. It often exceeds the minimal convulsive dose by a hundred percent and often varies during

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Translated from the Russian.

repeated injections. (2) The ether mixtures for intravenous injections are not stable, and must be prepared immediately before every injection. (3) A possible precipitation of camphor from the solution or the appearance of emboli cannot be completely excluded. (4) Unpleasant after-effects can be observed, which are partly associated with the presence of ether in the preparation.

On account of the shortcomings the existing preparations present, our hospital availed itself with great interest of a chance to study the convulsive effect of a dispersed camphor prepared in the central laboratory in liquid emulsions. This step represents a significant achievement of Soviet science and technique.[1]

Professor Solovyev supplied our hospital first with a 2% camphor emulsion (this means a 10% emulsion of camphor oil).

This emulsion was carefully studied in the laboratory of our hospital, with the aid of experiments performed on dogs. It gave a convulsive effect but turned out to be too weak to be applied to humans. Too large a dose of the emulsion would be needed and this would require, even in a rapid injection, more time than is required for a spontaneous effect. As our experiments proved, the dispersed camphor-like cardiazol must be rapidly injected in order to be effective. Only then can the necessary effect upon the brain be obtained. Apparently the dispersed camphor-like cardiazol disentegrates rapidly, and that is why slow introduction causes the effect to decrease or to be entirely absent.

In view of the weakness of the 2% emulsion for convulsive therapy, upon our request the laboratory handling the emulsions prepared stronger suspensions, namely, 3, 4, 6, 8 and 10%. All these preparations in succession were checked in the physiological laboratory of our hospital on dogs. Only after different series of dispersed camphor preparations of varying concentrations were carefully examined did we begin to explore their therapeutic effect upon man.

The control test of this new preparation was carried out by the juxtaposition of this remedy and the convulsive doses of the ether-oil

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[1] The dispersed emulsion of camphor oil is prepared with the help of special implements. The dispersion of this emulsion is characterized by the fact that in one cubic millimeter there are contained 20 million droplets of the size of 0.5 microns. (This means they are ten times smaller than an erythrocyte.) We must also emphasize the fact that it is possible to control the quality of this emulsion with the help of a microscope.

mixture of camphor. For this purpose, immediately prior to the injection, an ether-oil mixture of the camphor was prepared which contained: 0.25 gm. camphor, 0.625 gms. peach oil and 0.125 gm. ether to 1cc. of the solution to be injected.

In this report we use data from a previous series of investigations (which are still being continued). In these investigations the convulsive dose of the new preparation in varying concentrations (from 2% to 10%) was determined. From these data we can draw the following conclusions:

1. Comparing intravenous injections of the dispersed emulsion of camphor oil to the ether-oil solutions, one notices that the convulsive doses are more stable in dispersions than in other solutions. The relation between the absolute quantity of camphor injected intravenously in convulsive doses and the weight in kilograms is more permanent with the dispersed camphor than with the ether-oil solution, a fact which is true in animal experiments as well as with patients. In concentrations from 4% to 8% for patients, the convulsive doses are equal approximately to 10 mg. per 1 kilogram of weight.

2. To determine the convulsive doses one also has to take into account the speed of injection (not less than 1 cc. per second). The more rapid the injection the shorter is the period of latency.

3. The higher the concentration, the stronger is the tonic phase of the convulsive attack. In order to check on the convulsive doses, an experiment on animals was made whereby we injected five to ten times the convulsive dose. We noticed that an increase of the concentration from 2% to 8% decreased sharply the death rate in the animals. The injection of 10% solution of camphor, which was more than five times the convulsive dose, caused the death of three dogs as a result of paralysis of the respiratory system. Repeated experiments with injections of 8% camphor solution, which was five and ten times as strong as the convulsive dose, showed that this preparation (8%) is not lethal even in such strong doses, and that it causes only a repetition of the attack and symptoms, suggesting a prolonged intoxication.

In accordance with these experimental data, we limited the injections of dispersed camphor for patients to concentrations which did not exceed 8%. Later on we found that an 8% emulsion of camphor (this means 40% of camphor oil) seemed to be most appropriate for our purpose.

The sum total of the injected mixture in cc. in those cases equalled 5 to 10 cc. The influence of the new preparation of camphor upon pulse, respiration and blood pressure was registered immediately before injection, during the injection, and repeatedly several hours following the injection.

During the subsequent days, the examinations were repeated five to six times. These examinations were carried out with experimental animals as well as with patients. Laboratory examinations and electrocardiograms were also made.

The injection of camphor in quantities which did not exceed the convulsive doses showed an increase of pulse rate and a weakening of the pulse wave during, and at the end of the attack. The weakening of the pulse during the intensive experiments with the animals corresponds for this period to the decrease of the blood pressure.

In the majority of cases the increased pulse rate became normal shortly after the convulsive attack (in one or two hours) and simultaneously it could be noticed that the pulse became full and bounding. The blood pressure also returned to normal. In some of these cases the increased pulse rate was noticed during subsequent days.

The breathing rate is increased in the beginning of the convulsive attack and especially during its latent period. During the attack, the breathing is absent for approximately one minute and usually the first inhalation corresponds with the end of the convulsions; but often an apnea lasting about 10 to 15 seconds may be observed. In the majority of cases after the first deep inhalation, respiration becomes even and quiet and only somewhat decreased in rate.

The duration of a convulsive attack is from 55 seconds to one minute and 20 seconds. It includes the myoclonic, tonic, and clonic phases. The myoclonic and tonic phases last from 20 to 30 seconds. The rest of the time is taken up by the phase of clonic convulsions. When comparing the above described type of convulsion with the convulsive attack caused by injection of ether camphor, one can notice a great similarity between the two and a difference from the effect of cardiazol. However, at the same time it must be emphasized that in the ether camphor seizure the phase of the tonic tension, and of the whole convulsive attack, is longer.

When dispersed camphor is used consciousness returns after 5 to 10 minutes. When the ether solution is used, there is a longer disturbance of consciousness.

In contrast to ether camphor, the injection of the dispersed camphor does not bring about bulbar speech when the patient is emerging from the attack.

Particularly important is the comparison of the data of clinical observation with the objective examination of pulse, breathing, and blood pressure, during the days that follow the injection. One can notice that after the ether solution is injected there is on the second day very often an increase in temperature which reaches 39° to 40° (102° to 104°), a feeling of malaise, deafness, motor retardation, headache, and complaints of being weak and "broken up."

The injection of dispersed solution causes a reactive increase of temperatures on the very day the injection is given; the temperature reaches 37.2° to 37.3° (99° to 99.2°). On the next day, however, the temperature becomes normal again. The symptoms of weakness are no longer quite definite. Pulse, blood pressure and respiration become normal.

Electrocardiograms (EKG) of all patients were taken before the injection of camphor, immediately after the convulsions ended, and then thirty minutes later. Repeated EKGs were taken after a few days. The EKG showed only insignificant tachycardia, otherwise there were no deviations from the normal.

The comparison of this EKG with the EKG obtained during ether camphor and cardiazol seizures is being carried out now.

The Technique of the Application of Dispersed Camphor

From an ampoule which contains 10 cc. of sterile solution of a highly dispersed camphor draw up with a syringe the necessary quantity and then inject it into a vein. It is recommended that this solution be introduced with a velocity of not less than 1 cc. per second. In a period of time from a few seconds to one or two minutes the attack takes place.

At present we have under observation 25 patients. A few are at our hospital, the majority at the Moscow Suburban Psychiatric Hospital. The clinical manifestations which can be observed in applying highly dispersed camphor can be demonstrated schematically by two groups of facts: (1) Seizures characterized by convulsions and accompanied by psychotic disturbances; and (2) abortive seizures without convulsions, but with clouding of consciousness as an equivalent for convulsive disturbances.

As mentioned above, the duration of the convulsive seizure is short. Consciousness returns in five or ten minutes after the convulsion ceases.

Now we will briefly describe a few cases.

Case No. 1. Patient P., male, 23 years of age. Catatonic schizophrenia; ill for five years. The condition is a catatonic stupor with complete immobility and mutism. Does not answer questions, speaks sometimes to himself, speech incoherent; gestures bizzarre, behavior and ideas delusional.

On January 15, 1941, he received 10 cc. of an 8% solution of dispersed camphor. After 15 minutes, convulsive attacks with tonic and clonic convulsions set in. The attack lasted for one minute and 10 seconds. Heart activity was good. Two or three hours following the attack a distinct change in the patient's mental condition was noticed. He was very active and fidgety, restless, and obtrusive with his conversation, had vivid acoustic hallucinations, expressed ideas of self-accusation and persecution. He was easily accessible. This condition lasted for two days.

Later the patient received five more injections of dispersed camphor, which lead to four complete seizures and one of the abortive type. His mental condition changed noticeably. He became more accessible, softer, showed less negativism, and unable to entertain a conversation; but he still had hallucinations.

Thus far the patient received six injections of dispersed camphor, as a result of which a considerable change in his condition took place; his former mutism has completely disappeared.

Case No. 2. Patient P., female, 22 years of age. Grew up normally. Became ill in March 1939. Maintained a fixed position of her body; was depressed and showed a disturbance of thinking. Was put into the Solovjev Hospital where she was treated with insulin, which therapy, however, did not show any results. From August 25, 1940, she was in the Suburban Hospital. She was almost inaccessible, extremely inhibited, suffered from hallucinations. Treatment with sulfozine[1] brought no change in her condition.

Case No. 3. Patient B., female, aged 39. Was ill with schizophrenia since 1931. Catatonic form with stereotypies.

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[1] Sulfur in olive oil. A 1% suspension used by intramuscular injection for the treatment of schizophrenia; it produces pyrexia. – Editor.

Received 9 cc. of dispersed camphor in 6 seconds. Hyperemia of the face of the scleras, blinking, slight cough, diffuse clonic convulsions were followed after a few seconds by tonic convulsions. Tonic tension turned after 30 seconds into clonic convulsions; the face became pale; cyanosis took place. The whole attack lasted one minute and 15 seconds. The breathing was regular and quiet, somewhat slowed down. After thirty minutes the normal color of the face returned. Pupils were narrow. Light reaction was absent. After 30 more minutes the patient tried to open her eyes, looked around. At the end of the third minute she reacted when addressed, but did not understand any questions, fell asleep; afterwards complete amnesia.

As a result of five injections which were all accompanied by seizures, we were able to observe a change in her condition; she became quieter, excitement and negativism disappeared.

In some cases we observed a change in condition as a result of abortive attacks (characterized by disturbances of consciousness and absence of convulsive symptoms.) The following is an example:

Case No. 4. Female patient, 35 years of age. Suffers from schizophrenia since 1931. Excited, cynical, aggressive, speaks in puns and proverbs, but incoherently.

Received two injections of dispersed camphor. The first time 9.5 cc. of a 4% emulsion; the second time 3cc. of an 8% emulsion. Both these injections were followed by vegetative symptoms and loss of consciousness. The patient did not answer questions; showed no convulsions. Following the two treatments, she behaved in her ward more normally, did not show any excitement, wrote a letter to her relatives asking them to take her out of the hospital; started to busy herself with occupational therapy.

Thus, in all cases reported here, as well as in many others, we were able to observe a change in the patient's mental condition, and a partial disappearance of the catatonic syndrome. In all these cases we noticed a complete absence of resistance to subsequent injections.

General Conclusions

The use of highly dispersed camphor leads us to a few conclusions.

(1) None of the patients treated by us showed any symptoms which could imply a possibility of embolism. This can be related directly

to the highly dispersed state of the medication. There were no surgical complications of any kind.

The use of dispersed camphor is associated with the same symptoms as other convulsive medications. One of the unpleasant symptoms characterizing seizures caused by dispersed camphor is the labored breathing which is approximately the same as when cardiazol or ether-camphor is used. This labored breathing is not of a dangerous nature, as is shown by the application of all convulsive medications. It is nevertheless advisable to have at hand a respiratory stimulant in case it is needed. Experiments on animals in our laboratory have shown that lobelin, which is commonly used, is not very effective. Its effect does not last long and it has a negative phase where breathing is stopped completely at the onset. Therefore, one of us (A. A. Khachaturean) tried out new preparations on animals to stimulate breathing, namely *citotin* discovered by Prof. M. D. Mashkovski, and *acetyl-alpha-amino-nicotin* Professor G. A. Mednikyan. Both these preparations give outstanding results. They literally revive dogs which receive even a lethal dose of camphor, and apparently they will prove to be reliable medications which should be at hand when active therapy is applied. Incidentally, we should like to emphasize, that in case of need one should resort also to such simple means as artificial breathing.

(2) Patients who were submitted to the treatment by dispersed camphor, when carefully checked by an internist, showed no disturbances of the cardio-vascular system.

(3) In all our cases, unlike those treated with the ether-oil camphor, we noticed insignificant reactive increases of temperature on the day when the medicine was injected. This increase reached 37.2° to 37.3° (99° to 99.2°), whereas ether camphor leads often to complications which are accompanied by a temperature, reaching as high as 39° to 40° (102.2° to 104.0°).

(4) In using dispersed camphor, the comparatively small activity of the tonic phase is an advantage that is directly due to this medication, as is also the lesser duration of the seizure. When dispersed camphor is introduced the entire seizure appears lighter. Coming out of the attack the patient never displays bulbar speech, such as we commonly see it after having used ether camphor; a fact which can be directly related to the greater depth of the disturbance. This peculiarity of the seizure gives us the right to believe that in cases where dispersed camphor is

used, the possibility of fractures and dislocations must be considered minimal.

(5) Very important also is the absence of painful symptoms in case of abortive attacks. As is known, the use of cardiazol leads, if no attack appears, to extremely unpleasant subjective sensations which sometimes last for hours and leave with the patient an utterly unpleasant memory of the whole treatment. As a result, patients often refuse a continuation of the treatment. Thus, the absence of an attack when cardiazol is injected is always regarded as an unpleasant occurrence. This makes correct dosage very difficult. An insufficient dose is most undesirable, and too large a dose is not without danger. This condition is justly regarded as an important drawback of cardiazol as compared e. g. with insulin which allows any kind of doses and makes it possible to reach the seizure doses gradually, or even not to approach them at all. Dispersed camphor is completely free of this drawback. If no attack occurs, the patient does not experience any unpleasant sensation. He is usually in a state of more or less marked cloudiness of consciousness with subsequent amnesia. Therefore, he does not refuse further treatment.

The absence of a seizure, when dispersed camphor is used, is not a failure, a fact which makes the search for the adequate dose much easier. But that is not all. Some time ago some authors pointed out that treatment with small doses of cardiazol (without convulsions) has a therapeutic effect;[1] the only obstacle consists in the fact that patients do not easily agree to such subjectively painful procedures.

Dispersed camphor is perfectly suitable for testing the value of such seizureless treatments. It is possible that the condition of clouded consciousness and the abortive seizures are sufficient to cure at least a part of the cases. We are now engaged in collecting such material.

The above-mentioned facts concerning the use of dispersed camphor for convulsive treatment of schizophrenia are preliminary, especially since we were able to study only the immediate effect of the medication and not the subsequent results of our treatment. Further observation and research are necessary.

However, all that has been discussed above, allows us to emphasize the importance of dispersed camphor as a means which could be widely used in convulsive therapy of schizophrenia, especially in the treatment of chronic cases; there convulsive therapy may be regarded as truly essential.

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[1] Dupony et Micucci: Annals Med. Psychol., 1940.

THE ROLE OF THE ENDOCRINE GLANDS IN EMOTIONAL DISTURBANCES, CRIME AND REHABILITATION*

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Emotions are influenced by many factors. Major roles in this respect are played by heredity, environment, education and upbringing, past experiences and certain physiologic and chemical states of the body. We shall concern ourselves with the last two, and in particular with those which are conditioned by the endocrine glands. Under certain circumstances faulty endocrine function may result in emotional disturbances and they, in turn, may lead to asocial, anti-social or criminal acts. Such an outcome is, however, relatively infrequent since counterbalancing features are likely to be set in motion, and quite frequently, too, the causative factor rights itself spontaneously or as a result of therapy. The therapy may not be directly or consciously intended toward correcting the particular glandular or metabolic disturbance but it may be helped, nevertheless, incidentally as a by-product of our efforts. A good example is the improvement of a hypoglycemia or of a genital hypofunction in the treatment of a boy with Froehlich's syndrome where our attention was focussed upon the obesity.

In the consideration of criminal acts related to psychosomatic conditions it is important to determine whether a criminal act was done willfully and with criminal intent or whether the individual was entirely or partially compelled to act, or not to act, as he did because of his peculiar make-up, physical, physiological, psychological or chemical, at the time of the commitment of the crime. In the question of rehabilitation similar considerations are in order, since it must be our purpose to prevent a repetition of a committed crime or to forestall an intended crime.

In such a study we certainly must include a diagnosis of the medical and social factors which made the individual a criminal, and

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an attempt must be made to eliminate them. If this is impossible or impracticable an endeavor must be made to place such an individual in a situation where his shortcomings are constructively utilized or at least where they are of no, or only minimal, handicap.

Many crimes are committed by individuals in whom some part of the central, peripheral or autonomic nervous system is malfunctioning. These three divisions do not perform their physiologic activities separately and distinctly from one another, but the emphasis is likely placed upon the one or other, dependent on a particular situation. The nervous system is the mediator between the psychic and "psychologic" man on the one hand and his physical organs on the other. The relationship goes in both directions; the psychologic make-up influencing the physical organs and they in turn influencing the various mental and emotional actions and reactions. In addition, psychologic states may directly influence other psychologic states just as physical organs may affect other physical organs without the mediation of special nerve paths. In this discussion we have chosen to emphasize one set of physical organs, namely the endocrine glands and their relation to the three parts of the nervous system. However, it is impossible and unwise to escape a consideration of the organs and systems which are only indirectly under endocrine control.

The human body in its wisdom has interposed this set of glands in order to better harmonize the reciprocal effects of the nervous system and the organs, or those between the organs themselves. By means of their hormones the glands are designed to either increase the speed of the function of an organ or a metabolic activity or, on the other hand, permit it to proceed at an *automatic* slow rate according to momentary requirements. As long as these glandular mediators perform their task adequately they are of great help to the body economy, by insuring *rapid* adjustments. Let them malfunction, however, and they turn at once into an enormous liability. Not only do they then induce faulty efforts and adjustments which depend directly upon the particular culprit gland, but other potent reactions are set in motion in an endeavor to compensate or, as the body frequently does, overcompensate for the offender. At once the hitherto existing tranquility and harmony are disrupted and all sorts of predictable and unpredictable manifestations result. Thus not only the physical harmony is disrupted, but the mental and emotional functions, too, become altered.

This becomes particularly disturbing when due to social and environmental conditions the organs, and for that matter the individual as

a whole, is prevented from fully expressing the affected function. As a case in point we may recall the familiar example of the primitive man who, when confronted with a physical (and usually well defined) danger, mobilizes via certain glands all the energy he needs for fight or flight, simultaneously suppressing all the functions not needed for that task. In modern life fight and flight of this sort are not feasible, but the original forces are still mobilized. The result is that the muscles needed for physical exertion contract but perform no useful action, while the socially feasible suppression of digestion, peripheral circulation, etc., are permitted full sway. This leads to a bizarre and generally detrimental set of effects. It has been said that partial, prolonged and often repeated misadaptation to primitive impulses represents one of the reasons why certain diseases such as peptic ulcer, hypertension, etc., are so common in modern man. Speaking of crime, Abrahamson states, "This psychosomatic group which has been widely overlooked, particularly in its psychological implications, embraces all kinds of physical disturbances which interfere with the normal life of an individual. Since a situation may expose an individual as a unit in physical, chemical and psychologic aspects he may respond to his surroundings with an anti-social act, while another individual similarly exposed may respond with a peptic ulcer, hypertension, migraine or an epileptic fit."

Roughly speaking, there are three groups of endocrinopathies which may lead to emotional disturbances, and, under appropriate circumstances, to crime:

(1) Those in whom, due to hereditary, congenital or acquired structural – and concomitant functional – aberrations in one or more of the endocrine glands, certain important *nerve structures* fail to develop or to mature, or if they do, only at an unduly advanced age. On the contrary, the maturation may occur at too early an age when the organs receiving the innervation are not quite ready and thus are not capable of using all the nerve energy supplied to them.

(2) Those where, due to glandular dysfunction, the chemical composition of the *body fluids* is altered, with consequent altered brain and nerve physiology.

(3) Those caused by *somatic peculiarities* resulting from faulty endocrine or metabolic activities in which the individual interprets them as causing him to *appear* peculiar, inferior or socially less desirable.

FIRST CATEGORY

In this group we have first and foremost diseases of the *thyroid gland*. Congenital *athyroidism* or cretinism as well as hypothyroidism in early life effectively prevent the growth of nerve structures. In cretinism entire layers of neurones in the brain fail to appear and those which do, show gross and microscopic changes in size and structure of the neurone body, in the myelin sheaths, neurolemma and axis cylinders. In addition, due to lowered cellular metabolism there is a slowing in the conduction of nerve impulses even through those nerve fibres which are more or less intact.

In the brain, the most pronounced changes are in the cerebral hemisphere, less in the cerebellum and least in the midbrain. In this connection it should be recalled that the principal function of the thyroid gland in early life is the acceleration of tissue differentiation. The more highly a tissue is differentiated the greater is the need for this thyroid help and the greater is the effect upon that tissue if the thyroid is deficient. Therefore, nerve tissue and especially that of the cerebral hemispheres generally bears the brunt of the disease. On the other hand simple tissues such as lymphoid or connective tissue, being much lower in the scale of differentiation, not only do not suffer but actually are permitted to overgrow and dominate the somatic organism. As a result they tend to crowd out the nerve, bone, epithelial and other highly specialized structures. This is the basis of most of the manifestations seen in *hypothyroidism.*

Viewed from this standpoint we see in a marked hypothyroid individual a body composed to an unusual degree of primitive and low grade tissues, – lymphoid, mucoid, connective, cartilagenous and fluid with a paucity of nervous, muscular, bony and epithelial structures. The later in life the hypothyroidism becomes manifest, the less marked and the less severe are the changes. If it develops after the age of 18 or 20, the principal difficulties are not those of lack of differentiation, but of lack of faulty oxidation and other metabolic processes. Under these circumstances the picture is that of sluggishness in the function of many organs, including not only the nerve structures but also the skin, muscles, epithelial and secretory tissues, blood forming organs, etc. In some respects the disease entities met with are comparable to those normally occurring in old age when everything naturally slows down. The mentality is slow and inefficient, menstrual and sex functions are disturbed or absent, the joints ache and creak, the arteries are

inelastic and hardened, the organs of the special senses are inadequate, breathing, heart action and motions are slow, the person tends to nag and, in part to justify his own slowness, is apt to be irritable and fault-finding.

It is easy to understand that with this type of physical make-up an individual is not only likely to be deprived of the education which active contact with society furnishes, but in situations where he is exposed to ordinary social contacts he must adjust in some manner with and for his inadequacies. Since it is unlikely that he would be able to over-compensate, burdened as he is with structural inadequacies, he will become either indolent and shut himself away physically or mentally in a world of his own where competition is no longer required, or he may use means of eliminating competition by antisocial or criminal means – stealing, robbing, raping or even killing. He is aided and abetted in this by the fact that his conception of right and wrong is dulled and he feels no particular qualms or pangs of conscience in acting as he does. There are, of course, many varieties of such abnormal behavior, depending upon the amount of the hypothyroidism, the time of its onset, concomitant abnormalities, opportunities, past education, traumatic experiences, etc. The prognosis depends upon the amount of thyroid tissue present, the adequacy and timeliness of therapy, concomitant disease, biologic receptivity of nerve tissues to glandular extract, environment and, last, but by no means least, the vigorous measures of the psychotherapist.

In the case of *hyperthyroidism* the condition is in many respects the opposite of the above. It would be a mistake, however, simply to take the description of a hypothyroid and reverse it. For one thing neither hypothyroidism nor hyperthyroidism ever occur as pure entities. In fact it is my sincere belief that before long both terms will have become obsolete, since undue emphasis is placed upon the thyroid gland as such. The symptom complex presents many equally important components which, because of our terminology, are either overlooked or in any event too often neglected, all to the detriment of the patient. However, for the present we shall adhere to the time-honored designations.

Overfunction of the thyroid gland rarely occurs during intrauterine life or even during infancy and early childhood. While the disease does occur in young girls, the majority of cases are seen in individuals between the ages of 18 and 60. Therefore, if we wish

to paint a picture contrasting with that of hypothyroidism, we must pick the group where the underfunction has been acquired at an age after puberty, that is, when the tissues of the body have had time to develop and partially mature. Yet it seems certain that influences must have had their effect before the disease becomes manifest, because we know that hyperthyroidism tends to develop only in persons who have what is loosely termed a constitutional predisposition to it. The feeling of many of our best authorities on the subject is, and I share their view, that hyperthyroidism starts as early undetected hypothyroidism to which the body reacts by hyperplasia and hyperfunction of the thyroid gland and by a consequent over-differentiation of tissues.

Be that as it may, the typical hyperthyroid individual shows all the evidence of overspecialized or over-refined tissues. She is like an extremely delicate, tiny Tiffany watch, wonderfully constructed to the last detail, with perfect precision and made of extremely delicate, fragile springs, wheels, bearings and parts. It looks exquisitely beautiful and runs with uncanny accuracy as long as it is protected from the least jar and kept in a plush lined case, placed in a safe or under a glass cover, wound and handled only by an expert. But let it be bounced a little or handled the least bit roughly and a tiny spring or bearing breaks, and the whole fine mechanism refuses to budge. Moreover, any repair can be done only with great difficulty and at considerable expense requiring the skill of a very special expert. Compare this to a dollar Ingersoll watch, which, I am told, improves after having been dropped a few times on the floor and any repair is comparatively simple and inexpensive. Here we have a good differential picture between an hyperthyroid and an hypothyroid person.

The hyperthyroid individual's nervous system is very highly developed in all its divisions but especially in the cerebral hemispheres. So are other highly specialized tissues such as epithelium, skin, glands, bone, etc. She is very brilliant and scintillating, quick in perception and reply, but low in endurance and sustenance. She is very unstable emotionally, alternating from deep depression to great exhilaration, in rapid succession. She laughs and cries easily, often for no apparent reason. Insignificant remarks or even gestures are picked up with characteristic rapidity and alertness and quickly incorporated in her personal special makeup, retained quite stubbornly either as a factor of sustained pleasure or pride, or as sustained injury and dejection. Which of the two it will be in a particular instance is impossible to predict,

especially by one not too extensively trained in psychology, since it depends upon her previous experiences and interpretations, and upon the particular phase (depression or elation) which happens to engulf her at the particular moment.

Aggravating this state of affairs is the fact that because hyperthyroid girls and women are so scintillating, they are apt to be the life of any party with all the concomitant demands descending upon her. Furthermore, her features are apt to be finely chiselled, her hair fine and glossy, her skin warm and delicate, her hands warm, soft and finely trembling, all features which make her unusually attractive to members of the opposite sex. Thus our patient is in great demand socially, and with her vivacious temperament, she eagerly accepts all sorts of engagements, when as a matter of prudence she would be best off were she spared all these strenuous physical drains. A vicious circle thus engulfs her, putting undue strain upon a constitution incapable of enduring even normal tasks. She cannot extricate herself easily and frequently resolves her difficulty by experiencing a nervous or physical breakdown.

A further difficulty arises from the circumstance that not only are her tissues easily fatigued, but they are constantly bathed in more or less toxic fluids because the liver, being inadequate in many of these cases, fails to detoxify them fully. Her indulgence in innumerable voluntary and involuntary useless movements, such as gesturing, restlessness, unnecessary steps, tension, tremors and her rapid heart action place additional burdens upon her. All these factors force the patient inexorably into exhaustion, a feeling of weakness, an awareness of helplessness, inadequacy and inability to perform her daily tasks, be they in her home, in an employment or in her position as an executive.

Such would be the inevitable outcome of an untreated person were it not for the fact that nature may lend a hand and change the hyperthyroid into a hypothyroid state, thus relieving her burden to a large extent. When these alternating cycles occur, they are not short but often embrace several years. During a lifetime not more than two or three are apt to occur, the timing being generally influenced by certain normal or abnormal dramatic episodes, especially marriage, pregnancy, menopause, infection or shock. When such a partial turnabout occurs, some of the symptoms subside and our patient does not drive herself headlong into a breakdown. However, she remains, forever vulnerable to renewed hyperthyroid manifestations on the one hand, and to any

onslaught against her over-refined tissues on the other. The longer the hyperthyroid state is kept under control, the greater becomes the factor of safety and the more resistant will be her tissues.

The treatment requires great skill and insight into the entire physical and psychologic constitution of the patient. Unfortunately too many hyperthyroid patients are handled inadequately, largely because so many are submitted to operation or to a thiouracil therapy and thereafter most of the follow-up concerns itself with watching the BMR, the pulse rate and the weight. If these are found satisfactory, the patient is left to rely upon her own resources in coping with her other abnormalities. It is true that sooner or later a certain number of the difficulties subside spontaneously, but in the meantime much valuable time is lost and much damage is done to the patient by the remaining imbalance in the autonomic nervous system.

These cases of hyperthyroidism may well be compared to cases of women who are going through the transitional acute stage of the menopause, where the autonomic imbalance, too, manifests itself in physical symptoms, faulty psychologic adjustments or even in a predisposition to psychoses. In both groups, treatment cannot be considered adequate unless, in addition to whatever surgical or medical measures are employed for the reduction of thyroid function or the pituitary excess, the patient receives psychological guidance. She must be aided for a time at least, in adjusting her specific interreactions between the central and autonomic nervous system on the one hand, and her characteristic organ functions on the other. This is no mean task and requires all the resources of the most experienced therapist.

In passing, it is of interest to note that hyperthyroid girls are, as a rule, not the criminals but the victims upon whom criminal acts are perpetrated. Rape, passion, murder and the like are invited by their mental, emotional and physical attractiveness and their drive to participate in all sorts of events. Yet the stamina, dogged determination and strength needed to commit a crime are lacking and the conscience and superego of such girls are so highly developed that they rarely contemplate the perpetration of antisocial acts.

None of the remaining endocrine glands influence directly the structural integrity of the nervous system, although we shall see in a moment that they may decidedly interfere with its functions. The only exception is the *anterior lobe of the pituitary gland,* since the

thyroid gland (or for that matter any other gland) cannot function without an adequate supply of thyrotropic hormone from the pituitary. In turn, the latter requires a normal diencephalon to innervate it, so that for normal nerve structure the chain: diencephalon, pituitary and thyroid glands must be intact.

Second Category

Endocrine disturbances may affect emotional reactions also by an entirely different mechanism. They may cause a change in the chemical composition of the body fluids, notably the blood serum. Since the nerve tissues, among others, are bathed in these fluids the latter may bring to them only insufficient nutriments or actual toxic substances. In either case brain and nerve functions are profoundly altered. Nerve impulses either fail to be sent out at a normal rate or they may not be adequately transmitted to the effector organ.

The most important and best known alterations are those concerning blood sugar and blood calcium. In both instances it is the deficiencies rather than the excess which concern us here.

In the case of *hypoglycemia* the difficulty arises from the fact that nerve tissues including those of the central nervous system cannot function normally unless they are constantly supplied with an adequate amount of glucose, the substance which undergoes such easy oxidation, thus liberating continuously nascent oxygen. (This is the same reaction which we utilize in testing for sugar in the urine, where a copper salt is oxidized into copper oxide.) Unlike most structures in the body, nerve tissue is entirely helpless without sugar supplied to it constantly and at all times in proper concentration. We see here an instance where a tissue is so highly specialized that in the process of differentiation it has lost much of its power of independent existence in order that it may acquire the capacity to perform a most highly complicated function.

Nerve tissues not only require a continuous supply of glucose but they do not tolerate even small variations if they occur too *abruptly*. Thus we can understand why a sugar tolerance curve reported by the laboratory may at times be misleading. We have repeatedly seen hypoglycemic symptoms in patients where not a single figure in the curve was less than 75, but where rapid fluctuations from very high values down to normal occurred by precipitous drops. On the other hand, an individual with a blood sugar of only 30 may not show any

symptoms if the reduction has been very gradual and not too much prolonged. Thus it becomes clear that the interpretation of sugar curves requires the consideration of many pertinent factors other than absolute figures.

In this connection it should be pointed out that if one suspects a patient to be hypoglycemic one should insist upon a test which is prolonged to 5 or 6 hours, since often only the last two or three figures show low values. This has been shown first by Seale Harris and confirmed by many others. It is also essential that any features be reported which would alter the test, such as fear or excitement resulting from the repeated punctures, or from difficulty in finding a vein. Any tremor, sweating or restlessness near the end of the test (showing adrenalin effects) exercise or smoking permitted between specimens, etc., will also alter the curve. So will a high carbohydrate diet on the days preceeding the test.

Nowadays hypoglycemic states should not be overlooked by any physician. It is true that the symptoms and signs seem at times obscure and the test is a bit tedious and time consuming, but the reward of discovering such a case is great. The difficulty of doing the test is nil in comparison to the disability suffered by the patient. Yet, thousands run undiagnosed from doctor to doctor and from clinic to clinic.

If the hypoglycemia is sufficiently prolonged permanent damage to and changes in the nerve tissues may result. They include degeneration of the neurone body, degranulation of the cytoplasm, demyelinization of the axis cylinder and other changes. Accompanying are, of course, inevitable functional disturbances. Most of the studies have been made in connection with insulin shock therapy but autopsies performed in patients with a diseased pancreas have also been reported. All show similar pathologic nerve changes.

The cause for the hypoglycemia may be a tumor or hypertrophy of the island tissues of the pancreas in which case the fasting or subsequent blood glucose figures are usually extremely low, reaching in some instances down to zero. Much more frequent, however, are the cases where the hypoglycemia is due to malfunction of other organs, notably the liver, adrenals, thyroid or anterior lobe of the pituitary gland. At times no cause can be found and it is then assumed that the general tissue metabolism is at fault. The various etiologic factors can at times be differentiated from one another by special tests for the

individual glands, including insulin tolerance tests, glucose-insulin tolerance tests and others.

Hypoglycemia seems to be more common in individuals who have *vagal* preponderance. Thus we are apt to find during the asymptomatic periods, (as far as hypoglycemia is concerned) other symptoms and signs of so called vagotonia, such as intestinal cramps, allergic phenomena, pale and water logged mucous membranes, fatigue, easy exhaustion, languor, lack of pep in general, pallor, a pasty complexion, certain menstrual disturbances, low blood pressure and the like. When, however, adrenalin is poured out, due to the hypoglycemia, the typical sympatheticotonic reactions described below ensue. The long thin type of Kretschmer with schizophrenic tendencies fits into this picture. In line with this observation is the well known fact that a flat, or even a reverse, sugar tolerance curve can be produced by a stimulation of the parasympathetic or a depression of the sympathetic nerves. The reverse is also true. Furthermore, insulin and pitressin, both being parasympathetico-mimetic, depress the sugar values quite constantly. Of course, it must never be forgotten that vagus preponderance is always only relative and other functional derangements may alter the picture so that the syndrome may be obscured. Only by careful investigation can a correct diagnosis be established.

One of the best descriptions of the emotional and mental reactions due to hypoglycemia which I have seen is that by Joseph Wilder and I can do no better than to draw from his excellent paper which appeared recently in "The Nervous Child." He states that with mild hypoglycemia, especially in children, certain physiologic changes occur such as perspiration, salivation, fine tremors, diplopia, dizziness and the like. Wilder emphasizes a typically negativistic attitude of the patient who consistently refuses to perform actions requested of him or to agree with any statement made by another person. In addition, there is difficulty in thought fixation, even to the point of arrest of thought. Abstract thinking is impaired and there may be disorientation, apathy, lack of initiative and at times unconsciousness. In the motor sphere one often sees gesticulations, mannerisms, twitchings and the like. Sleep disturbances may range from sleeplessness to excessive sleepiness, sleep walking, nightmares, etc. With prolonged hypoglycemia true epilepsy and mental disturbances may develop which are not easily treated. Wilder describes cases in which hypoglycemic children habitually overeat and get fat or, on the other hand, possibly

because of their negativistic attitude, refuse to eat – with disastrous results, since the blood sugar drops still further when no food is taken.

Difficulty in school work may be ascribed to laziness when in reality the cause is a lack of sugar. A natural consequence of such false accusations and of hypoglycemia is that certain cases develop psychopathic trends, anxiety states, truancy and compulsive or destructive tendencies. Some of these cases, become antisocial due, in part, to impairment of judgment, irritability, aggressiveness, blind urge to activity, indulgence in rage, sexual and other excesses. They often lose the normal restrictions of the superego such as the feeling of shame, a proper judgment of right and wrong, and other prohibitions that were laid down by society. Thus such an individual resembles quite closely one who has partaken excessively of alcoholic drinks and, indeed not too infrequently, the two conditions in their acute stages are confused by the layman.

A word should be said about the treatment of hypoglycemia. To overcome the acute manifestations, sugar administered by mouth or vein is, of course, the logical remedy. If one is sure that the liver is not depleted of sugar, as would be likely for example in a diabetic with an insulin reaction, adrenalin in a 0.5 to 1 cc. dose will mobilize sugar quickly which can then be carried to the nerve tissues. In the treatment of the chronic state, however, easily utilized carbohydrates must be avoided since they stimulate insulin outpouring with consequent secondary further depression of blood sugar. Thus the diet should provide mainly proteins, fats and vegetables while sweets and starches are largely excluded. Frequent, small feedings are also essential. Among drugs most useful are those of the sympathetico-mimetic type, such as benzedrine, atropine, thyroid extract and perhaps, cautiously, ephedrine.

In passing it should be mentioned that diabetics are by no means immune to hypoglycemic reactions. While it is true that the lack of insular function and all the other factors responsible for diabetes are likely to keep the blood sugar level high, it must be recalled that too vigorous a treatment, voluntary or involuntary omission of food intake, or disease of the liver, adrenals or the pituitary gland may depress the sugar to dangerously low levels. Here the consequences are particularly severe since the liver, being poorly supplied with glycogen, cannot help out in the emergency. Therefore, many authorities in treating diabetes prefer to keep the blood sugar at slightly elevated levels.

Calcium. Reduction in blood calcium also results in many nervous and emotional disturbances. It is well known that the calcium ion in the fluid surrounding the synapses between individual neurones or between a neurone and a muscle fiber, inhibits the passage of an impulse. If only an insufficient number of calcium ions float in the blood stream, more impulses than is normal for the patient go through, with the result that the muscles are kept in a state of overactivity. In the sensory sphere too, general sensitivity to outside influences is heightened. As far as muscles are concerned this constant bombardment with impulses either throws them into spontaneous spasm, or contraction is induced by the slightest stimulation, such as tapping, light squeezing, exposure to slight changes in temperature or the like. However, the main difficulties arise from the fact that it is not only the voluntary muscles which are so affected, but also those of the hollow organs including the blood vessels. Thereby nutrition to many organs is reduced since their blood supply is curtailed. Most annoyingly affected are end zones such as fingers, toes, auricles, alveolar tissues, gums and tissues where so-called end arteries exist.

Concomitantly, the individual becomes conscious of many more sensations than he can handle and these with unusual intensity. He tries desperately to cope with the situation and adjust himself to these increased demands for response and to the increased speed to which he is driven by the awareness of a multiplicity of sensations. For a while he succeeds, but eventually he is driven to panic, tantrums, irritability, eventual fatigue and collapse or, on the other hand, to enforced indolence and refusal to accept sensations "at their face value." It is obvious that many neuroses, anxiety states, confusion, compensations and the like or, in predisposed individuals, actual psychoses may follow this state of affairs. Of course some individuals are more capable than others to resist the symptom formation for a time but eventually something is bound to give way, if the condition is sufficiently prolonged. The circle of events becomes more vicious by the fact that the reacting tissues are poorly supplied with nutritive blood and that additional energy is continually wasted by muscle spasms and reflex actions are set in motion by the hypersensitivity.

Thus we find hypocalcemic individuals complaining not only of sensory symptoms such as irritability, confusion, easy wakefulness, hyperacuity of ordinary stimuli of seeing, tasting, smelling, feeling and hearing, but also to cramps in hollow organs, (including the heart), legs, jaws and others. Because of these widespread effects many faulty diag-

noses are made, among them mucous colitis, appendicitis, rheumatism, heart disease, neurocirculatory asthenia, etc. If one is alert to these cases, it is surprising how many of the milder types of calcium deficiency one encounters. It requires, however, a good laboratory and a careful evaluation of symptoms. The treatment is so simple and the reward so great that even extensive efforts in diagnosis are worth while. At present, there are further studies in progress to determine whether other mineral elements may also contribute to similar disorders. The possibility of insufficient intake of calcium and other minerals is not too remote, partly because of the present methods of growing and processing of foods. This, by the way, is another topic considered at present in many research institutions.

The causes of hypocalcemia are many. The extreme is of course due to destruction or accidental removal of the parathyroid glands. Such instances are, however, comparatively rare. Much more frequent are the milder forms caused by nutritional deficiencies or errors, vitamin D deficiency, excessive intake of milk and other substances containing high amounts of phosphorus, consumption of vegetables which are grown in calcium-poor soil, or of unduly large quantities of carbohydrates (which precludes adequate calcium intake), the use of phosphorus containing drugs over a long time, or of excessive amounts of alkalies. All these factors are likely to reduce the circulating calcium and initiate the train of symptoms described.

The diagnosis of hypocalcemia rests upon the history, symptomatology (including such signs as Chvostek, Trousseau, etc.,) and laboratory tests. As to the latter, two important facts must be recalled. First, calcium and inorganic phosphorus (and probably also magnesium in the serum are present in inverse proportion and, what is more, the body tends to retain this proportion. Thus anything which raises the phosphorus tends to depress the calcium and vice versa. Secondly, the *physiologically active* calcium is only that part which is not bound to protein or other organic compounds. Ordinarily about one half of the calcium is bound and the other half is useful and diffusible. It becomes evident, therefore, that in the appraisal of useful serum calcium, at least three factors must be examined: The total calcium, the inorganic phosphorus and the total proteins. A normal or even high total serum calcium figure with a high phosphorus or a high protein may, and usually does, give symptoms of hypocalcemia and must be treated as such. Conversely, a rather low serum

calcium content may produce no symptoms if the inorganic phosphorus and total serum proteins are low.

In adults normal values for calcium are 9.5 to 10.5 mg.%, those for phosphorus 3.1 to 3.7 mg %, and protein 5.5 to 7%. In children the values for calcium and phosphorus are somewhat higher. The diffusible serum calcium is about 5 mg % and can be determined by plotting the figures of total calcium and proteins on a specially designed table. In addition, an elevated CO-2 combining power, indicating alkalosis, (i. e. figures above 60 volume %) reduces the physiologically active calcium.

Certain X-ray findings are significant of hypocalcemia and should perhaps be mentioned here. One is an unusual thickening of the cortices of the long bones caused by the fact that, due to lowered parathyroid function, alkalosis, and other factors, calcium which should circulate in the blood is deposited in the bones. All bones participate in this but the changes are best seen in the long bones and especially in the lamina dura of the sockets holding the teeth. Dental X-rays are a "give-away" of the diagnosis if they are carefully scrutinized. In addition, calcium deposits are apt to be found in various parts of the body such as the skin, omentum, walls of veins, etc.

In the treatment of hypocalcemia the aim is to increase the circulating free calcium: this can be accomplished by giving Vitamin D which helps to absorb calcium from the intestine, hytakerol to mobilize calcium from bones and tissues, replacing it with large doses of calcium lactate between meals orally and calcium lactate or gluconate intravenously. At the same time phosphorus containing foods and drugs should be avoided, including milk. A temporary mild acidosis is desirable, and is best induced by giving ammonium chloride. Injections of parathyroid hormone are not desirable because of the uncertainty of its action and because hytakerol, which is given by mouth accomplishes the same or more.

Other conditions which alter the chemistry of the body fluids are the various states dependent upon the secretion of the *pituitary gonadotrophic, ovarian and testicular hormones.* This would include in women the physiologic reactions accompanying the menarche, the menstrual cycle in its various phases, pregnancy and the menopause; in men – the reactions to puberty, adolescence, sexual potency and senility. Also all the various abnormalities relating to any of the above.

Only a brief description of the emotional reactions occasioned by these conditions can be given here. A more complete description of the entities themselves can be obtained in any good book on endocrinology. However, it will be desirable to stress features affecting especially the emotional sphere of the individual.

For our purpose, the normal menstrual cycle can be divided into two parts, the period before and that after ovulation. During the former estrogen dominates the picture. From the psychologic standpoint this period represents heterosexual and aggressive tendencies which normally are likely to make for general well being both physically and emotionally. In abnormal exaggerations of this state sadistic tendencies may arise which are either suppressed or become manifest in various ways. As ovulation takes place, which usually occurs around the twelfth to the fourteenth day of a 28 day cycle, it is at times accompanied by depression but usually passes unnoticed by the individual. As the second half of the cycle progresses, the effect of progestin, that is the hormone secreted by the corpus luteum, becomes evident and for three or four days, namely the 16th to the 20th day, both estrin and progestin are present in large amounts and the pituitary hormone and diencephalic functions are reduced. As soon as this period has passed, which is after the 20th day, various symptoms may develop, such as premenstrual tension, depression, migraine headaches, aggravation of allergic manifestations, and the like. Accompanying this is an increasing amount of edema throughout the body which is frequently felt as bloat or general discomfort. Psychologically the general attitude is that of passivity and homosexuality which shows itself in depressions and desires and dreams of being loved, protected or even hurt. If such tendencies are aggravated ideas of persecution and paranoid tendencies with or without compensation may develop. In extreme cases both suicide and homicide are possible at such times. At the time of the actual menstrual flow, while depressions may continue to exist they are rarely as pronounced as in the premenstrual phase. Several statistics have shown that violent aggression towards oneself or others are less frequent during the menstrual flow.

The question of dysmenorrhea is of interest in this discussion only to indicate that not infrequently such individuals have infantile uteri or tend toward masculinity. It has been shown that an unduly large percentage of girls with premenstrual dysmenorrhea show masculine tendencies even during childhood and then during early adolescence. They prefer games which require strength, prowess and physical en-

durance, to those which one ordinarily associates with girls like playing with dolls, sewing and the like. This might suggest, although it is by no means established, that some hormonal imbalance exists in these early stages of life which draws the child to choose these more masculine pursuits. In later life homosexual tendencies may develop and the dysmenorrhea could be an expression of suffering as a remonstration against feminity into which the girl is forced by reason of her soma.

Since ovarian function is dependent upon the integrity of the pituitary gland and this in turn upon the integrity of the diencephalon which at the same time seems to be an essential element in the production of emotions as well as of water metabolism, the mechanics of such emotional alterations during the various phases of the normal and abnormal menstrual cycle become a bit clearer. It should be noted that during the 3 or 4 days before the onset of the menstrual flow as well as during the first 2 or 3 days of the actual flow the ovarian hormones are at their lowest ebb and the pituitary gland and is provider, the diencephalon, are permitted to overact. It is conceivable then that the emotions run riot and dominate the somatic picture.

The emotional reactions of the menarche, that is the onset of menstruation, vary according to the peculiarity of the individual girl as well as to the method by which she is introduced to this new experience. A wise mother, doctor or other person having her confidence, can do a great deal to shape the emotional memory of this natural event and avoid the common resentment which girls express in their later lives to the monthly occurrence of menstruation. Typical of faulty instruction is the use of the term "curse" for the menstrual flow. The association of punishment with a phenomenon as natural as the menstruation expresses an increased resentment of the girl to the menstrual flow.

Pregnancy is connected with two separate sets of phenomena; one is its social, economic and religious significance, the other the physiologic and endocrine changes associated with it. The former need not be discussed at this time since they are rather self-evident. In our society an unmarried woman is not supposed to be pregnant while a married woman is supposed to have children. If either of these two states is violated, certain emotional difficulties may arise which under certain circumstances may lead to crime. Also, in our society, pregnancy is supposed to be initiated only by the husband, and if someone else is implicated, disastrous consequences may result.

Gestation may be divided into several phases with respect to endocrine function. During the first month or six weeks there is a tremendous increase in pituitary hormone. It is then that nervous irritability, difficulty in mental concentration and digestive disturbances are most marked. Concentration involving all of the glands is at a more or less even level from the second month until the fourth or fifth month are reached, when the ovarian hormones increase considerably. However, since both estrin and progestin are high in titer they neutralize one another, from an emotional standpoint, and no particular trend, either in the direction of depression or excitement, is likely. While certain mental disturbances are aggravated during this period, many improve if they were present before pregnancy ensued. After delivery all hormones become reduced to a minimum and it is then that a condition ensues which is quite comparable to that existing just before menstruation. In other words, depressions and melancholia are quite frequent, in fact so much so, that for many decades the term "puerperal depression" has been used to designate these conditions.

The menopause brings about emotional disturbances of various types. Some individuals become very irritable and hard to live with because they develop anxieties of all sorts together with the vasomotor disturbances. Simultaneously, many organic symptoms develop affecting any organ which is under autonomic nerve control. Thus the gastrointestinal tract, the heart, the circulatory system including blood pressure changes, the respiratory system, the nervous system, the bony system – all may suffer from organic or, more frequently, functional disturbances. However, the typical emotional change is what is generally termed "involutional melancholia" of greater or less severity. Probably the term is not sufficiently descriptive since it has very little to do with any involution and frequently has little to do with bile. In extreme cases the person becomes fully demented but electric shock treatments or estrin therapy or both may restore the individual to normal.

Of great importance in this connection is the psychologic reaction of women past forty in which, often rather suddenly, they become aware of their age and may be exposed to a growing sense of insecurity. They begin to feel less attractive to their husbands and note with apprehension that occasionally they must compete with younger individuals, under disadvantageous circumstances. They are afraid that it may become more difficult to hold their husbands, and that hopes for their own independence are diminishing. Such women have not learned to

accept in a mature manner an inevitable course of events and to realize that advancing age necessitates certain changes in the adaptation to society. The result is that she may adopt a general aggressive attitude in order to overcome her inferiority feeling, or she may withdraw from society in order to escape the necessity of dealing with her imagined shortcomings.

Amenorrhea has rather marked emotional implications not only because of fundamental endocrine factors which may under certain circumstances alter the diencephalic-pituitary function, but mainly because amenorrhoic girls often feel themselves sexless, when the characteristic monthly event fails to occur. It frequently happens that such girls assume masculine mannerisms, partly as a compensation or protest and partly because of the fact that more or less pronounced masculinization actually does occur. Such a girl is muscularly patterned and has elongated vocal chords which lower the pitch of her voice. Much therapy is used to overcome the amenorrhea and at times justifiably so, even if only an anovulatory bleeding is produced since the patient's self-esteem is bolstered in this way.

Sterility in both males and females is frequently received with a deep sense of inferiority which must be overcome either by curing the sterility or by making the person accept the idea of an adopted baby or of adapting themselves in an adult manner to the inevitable circumstance of remaining a childless couple.

Eunuchoidism in males is a very important cause of emotional disturbances and under appropriate circumstances may lead to criminal behavior. The underlying reasons are found in their sense of inferiority in relation to other men and of course, also in relation to women. As a rule, eunuchoids are muscularly weak, have a feminine body build and possess small genital organs. All and any of these will assume considerable proportions in the mind of the individual and he may try to react to his disability and compensate for it by aggression, cruelty, ruthlessness or withdrawal from society. This withdrawal may be done in order to avoid circumstances where they must expose themselves to an exhibition of their eunuchoid body proportions. The ruthlessness and cruelty mentioned are frequently camouflaged by expressions of feminine tenderness toward animals, love for music, home, clothes and the like. During circumstances where these superimposed characteristics are removed, as for example, under hypnosis or in the dream state, the underlying feeling of inferiority and its compensation are

easily demonstrated. Under therapy, eunuchoids become more masculine and the entire personality pattern may change, the transformation being at times most dramatic. The picture drawn above holds true for boys as well as men.

It must be remembered that abnormalities in the sexual sphere are likely to produce much greater emotional reactions than one would expect. This sphere is as a rule placed by the patient and by society upon such a high pedestal of importance, and sexual integrity is so closely associated by society with self-esteem that the reaction to any fault here may easily release very strong resentment. Any psychiatrist can testify to the validity of this statement. It is for that reason, if for no other, that sexual abnormalities should be treated vigorously both endocrinologically as well as psychologically.

While disturbances in Na, K, Mg, Mn and other elements may be important factors in the integrity of the normal individual, they need not concern us here since they seem to induce only minor or only indirectly mental reactions. Furthermore, not enough studies have been made in this realm to permit of final judgment.

Certain vitamin deficiencies, however, are known to affect the personality very profoundly. A description of them would, however, lead too far afield and is reserved for a future discussion.

THIRD CATEGORY

The third group of emotional and psychologic disturbances related to the endocrine glands has to do with bodily states which affect the appearance of the individual. Here he or she regards himself or herself as being different from others and so endeavors to strike a tolerable balance either by physical or mental withdrawal from society, by aggression, overcompensation of some sort or by developing a neurosis of one type or another which frequently in some way utilizes the physical abnormality. It can be readily seen how such a behavior under certain circumstances may lead even to criminal acts.

The number of conditions belonging in this family is legion. Some of the most important are dwarfism, gigantism, acromegaly, obesity of the various types and degrees, extreme thinness, hirsutism, total alopecia, hypogenitalism in males (although this by its nature may produce infantile behavior patterns), gynecomastia, goiter, pigmenta-

tions, amenorrhea and the like. This list is far from complete but it serves to indicate the problem. Time and space does not permit a detailed description of any of the conditions mentioned, but it might be said that they often can be improved and at times even eliminated. However, it does not follow by any means, that in every case, or even in the majority of cases, somatic correction of the abnormality corrects also the psychologic behavior. On the contrary, in most cases skilled and often prolonged psychotherapy is essential if we are to cure our patient. Yet the correction of the somatic disorder makes psychotherapy easier and more effective.

In the foregoing I have endeavored to point out some of the frequently encountered endocrine and metabolic disturbances which may deeply affect mental and emotional processes and adaptations. I have also indicated certain diagnostic criteria and helpful procedures which enables us to understand and treat these conditions more efficiently. The list is far from complete or even adequate. My purpose has been simply to draw attention to the many directions in which endocrine disturbances may influence the mind and under appropriate circumstances may also lead to crime. The endocrines directly, or by way of the autonomic nervous system, or by altering certain metabolic states, may produce certain undesirable effects upon the nervous system. Some of them we believe we know, many more will be discovered as time goes on. But, as one of my teachers always used to say – "All I have said is so subject however to immediate changes without notice."

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ROBESPIERRE AND THE TERROR *

A Study in the Psychology of Dictatorship

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To the student of social psychology the French Revolution offers a priceless object of study. Here were active on a very large scale outstanding personalities together with vast masses of people. The problem of interrelationship between leading individuals and the group can be studied here to its best advantage. It was the great Jaures himself who very definitely took up the cudgels for the psychological point of view as essential to supplement the purely dialectical and materialistic interpretation which would be required by the Marxist orthodoxy.

From the immense wealth of material we shall select only a few moments to create the background for introducing our problem.

How did the dictatorship of the Terror come to pass and what was its psychological aspect? Some students of the subject saw therein an indispensable and unavoidable symptom of revolutionary activity as such. "It seems, therefore," says Le Bon, "as if there had been an almost universal psychological law in all ages, that one could not possibly be an apostle without experiencing the need for massacring someone or something."(1) And he elaborates on this point by saying that: "The Terror should not be considered as a mere expedient of defense but as a general procedure of destruction."(2)

This view had been meeting with opposition on the part of apologists of the Revolution, headed by Aulard. In their opinion, the Terror resulted from the necessity for defense against powerful enemies, both external and internal. According to their interpretation, the great bigwigs of both the Terror and the dictatorship submitted to this necessity as if against their will and at times very much to their regret.

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(1) "Psychologie de la Revolution Francaise.' '

(2) Ibid.

During the periods which preceded the Revolution and prepared the ground, two factors – both essential from our point of view – must be noted. One was the rapid growth of a deep-reaching discontent with the prevailing conditions, the second was the break-down of the institutions and standards which until then had been authoritatively in control.

The general discontent was due to a variety of causes. Foremost among them was the famine among the poorer classes and the resentment and hurt vanity among the bourgeoisie, whose social status remained disproportionately below the vast increase of its wealth and actual importance in the country's life. Thus the hatred of the poor and of the bourgeoisie against the aristocracy, as the enemy, converged into one turbulent stream.

France's foreign policy did its share to intensify the psychological tension among the masses. Violent emotions, tinged with intense hatred for the exasperating actuality and fanned by longing for a better morrow, kept on accumulating and seeking an outlet.

The ideas of a better world to live in, such as were current among the educated classes, were greatly influenced by the teachings of philosophers, who have been extolling the innate virtue of mankind, while heaping obloquy upon the decay of existing civilization. The universal feeling of uneasiness was growing increasingly tense and so did the need for some quick and violent change.

The feeling of protest against the oppressive reality could not but provoke intense hatred and craving for destruction. The situation bore the striking resemblance to a condition encountered in some psychopathic criminals, notably pyromaniacs. As this writer has shown elsewhere, such individuals unable to endure oppressive reality and possessing no means for bringing about the change along reasonable lines, try to destroy it at least in a symbolic way.[3]

The next momentous factor were the events which prepared the ground for the Revolution. Psychologically, they could be defined as the weakening and undermining of the old ideals. We can say, that in that period the very material foundations of the collective superego had crumbled away. The authority of the King, of the church and the

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[3] vis. Zur Psychopathologie der Brandstiftung, Schweizer Archiv. f. Psych Neur. 1919-1920.

nobility had little by little lost a substantial portion of their awe-inspiring glamor. The breakdown of the important layers of the super-ego set free the repressed tendencies which were soon begun displaying their anti-social nature. The aggressive drives, the grudge, the envy-began to run rampant and to destroy the existing social order. They were directed mainly against those institutions from which repression had been emanating and whose images imbedded in the minds of the people, had formed the important elements of the collective super-ego.

The external struggle, that is the struggle between the collective ego and the external factors developed parallel with the internal struggle raging between the ego and the super-ego. We shall not be surprised to see that the destruction of the monarchy, of the church and of the nobility provided to be in some respects easier to accomplish than was the process of bringing about a complete internal liberation.

The activity of the people and of its leaders along constructive lines brought fourth the Constituent Assembly. Thus against the currents of anarchy and destruction was set up a centre of legislative activity, inspired by prominent personalities, who represented the aspirations of the embattled classes of society.

Even a cursory study of the history of those turbulent months indicates the existence of at least two distinct and separate sources of the violent outbursts of collective passion and of brutal excesses. First, they constituted an outlet for the vast load of accumulated hatred, and, secondly, they were the reaction against powers, which still kept on being entrenched in public offices and were represented in the collective mind.

The return to office of Necker and the convening of the States General constituted the first victory of the French people over the King's autocratic regime. The aristocracy, however, endeavored to deprive the States General of their true, reformatory character and to make them resemble their weak-willed predecessors of 1614. Momentarily the "Parliament"[4] (of Paris) lost all of its popularity. "Never yet," relates an eye-witness, "did execration replace enthusiasm more suddenly. I saw the very same Parliament hailed in triumph on June 22nd because it had convened the States General and loaded with con-

[4] In France, prior to the Great Revolution, the "Parliaments" were courts of law, which in addition to dispensing justice also held powers and performed functions of executive and administrative nature.

tumely on June 25th because it wanted to give them the characer they had in 1614."

The National Assembly sitting in the Hand-ball Hall abolished the prerogatives of the hereditary nobility. On the way to the session which the King was to attend, the Keeper of the Seals and the Archbishop of Paris were set upon by the mob, spat at, mocked and insulted so violently, that the King's secretary, who was escorting the Keeper of the Seals, dropped dead from mortification.

Among the established powers, seemingly so firmly entrenched in the collective mind and yet so quick to have been undermined and overthrown, religion occupied well-nigh the first place. Here reaction set in very fast and violently. As is commonly known, not only the church as such had been destroyed but the clergy as well was the object of the most violent persecution. And yet all this failed to suffice. Religious ceremonies were mocked and made parody of, just as if the religious elements themselves as a part of the collective ego-ideal were exacting a tribute of their own and were obtaining it in the shape of a reaction of wholesale blasphemy. Even clergymen participated at times in the sacrilegious ceremonies and practices, some of them declaring in plain terms that the holy guillotine instead of the cross would save the world. In fact, the bloody symbol of the Revolution replaced the crucifix and miniature metal replicas of the head-chopping contraption were being worn suspended from necklaces.

At last, the close psychological kinship between the King's power and the power of the church, that is-of the religion, became the butt of an aggressive reaction when the traditionally revered royal tombs fell victims of mob violence. The sacred and historic temple of St. Denis, containing the royal tombs of the monarchs of the Valois and Bourbon dynasties, was broken open and despoiled. Even the coffin of Henry IV was taken from its vault, the corpse placed upright on a stone and the remains of him who once had been the idol of the nation were mocked by a ferocious rabble until a drunken woman knocked down the corpse by giving it a blow in the face.

The existence of royalist plots not only does not stand in contradiction to that ghastly scene, but on the contrary, supplements it in a telling fashion. They found a backing not only among the aristocracy, but also among the population of entire sections of France. Needless to add that those royalist outbreaks intensified in turn the severity of

revolutionary counter-measures. Thus the intra-psychic struggle against the old ideals was finding an expression in collective movements and demonstrations, directed against their external symbols.

Another important problem concerns the psychological background of the class struggle. The ancient feudal structure of France started to crumble long before the Revolution. The nobility lost much of its prestige, whereas the so-called Third Estate (i. e. the bourgeoisie) gained an importance, in educational standards and in wealth, remaining, however, overshadowed all the time by privileged aristocracy. Ambition and lust for power, so natural in a class newly coming up and on conquest bent, had to collide perforce with the aspirations of an old-established class, desirous of preserving its former status. In its eagerness to attain the desired goal, the new bourgeoisie had to subvert the inner framework of the old ego-ideal, which was based on the long accepted social structure. In that way the new bourgeoisie made possible the eruption of released and unchecked impulses of the people.

To be sure, neither the King nor the majority of the aristocracy were capable of relinquishing their principles or their privileges, least of all their narcissism. Meeting with opposition, the people were bound to feel an over-increasing hatred for those, in whom they saw the cause of all their present distress as well as the enemy of their unquestionable future happiness. The bourgeoisie, having no prerogatives and no power, shared in this mass hatred and so did the poorest of the poor in towns and villages, who as often as not lacked even their daily bread.

Hatred perforce unleashes destructive impulses, sadism and aggression. It might be controlled at least to a certain extent in individuals, but it can never be controlled when masses are on the move. Reports of eye-witnesses, memoirs and records of history amply illustrate the unusual tension of destructive and at times downright criminal impulses during that period.

These impulses were so strong and so constantly fomented by fears of external and internal enemies, that the revolutionary struggle as such, did not suffice to absorb them in full. Once the old social barriers were broken and old forms of authority destroyed, new ones were erected in their stead, based on new allegiances, new ideals and the brotherhood of common struggle. But again hatreds were quickly flaring up only to disrupt the cohesion of the new institutions. The Con-

stituent Assembly proved too weak and made room for the Terror which in turn was being torn asunder by factual strife. Documents show plainly that the Girondists were not less bloodthirsty than the Mountain. They were the first to declare through their mouthpiece, Petition, that vanquished parties had to perish. They also endeavored to justify the September massacres. Gradually the ground was being prepared for the attitude which shortly after found its final formulation in Robespierre's statement, that the foundation of the Republic consisted in the destruction of every opposition.

The setting up of the principle of equality meant the final break with the last vestiges of the feudal structure. However, it was bound to be at the same time the synthesis of all resentments and mutual hatred. "The concept of equality," said Le Bon, "frequently covers feelings completely contrary to its true meaning and at such times it represents the imperious need not to have anybody beyond, connected with a desire, no less intense—to feel somebody below."

When therefore, new elements of the collective ego-ideal began to develop in lieu of the old ones which were broken up and destroyed, the hidden need of inequality helped to crystallize the collective emotions of adulation around new persons—generals and dictators. Some of them pushed to the fore, while others found their happiness in submitting either to the will of the mob or to that of one or the other of the leaders. Thus collective and individual sadism and masochism were able to thrive and run rampant at will, both within the national assemblies as well as within the sundry factions.

The submissiveness and even the servility of all the national assemblies, above all of the Convention, to leaders who were quickly turning into dictators, was patent. The Convention yielded either to the Jacobin Club where Robespierre was the ruling mind, or else it was the weak-willed tool in the hands of the Committee of National Safety. Noted for its abject weakness and submissiveness was the great non-descript mass of the Convention, called "LaPlaine," upon which the leaders forced without any difficulty their ever-changing and contradictory decisions.

Discharging their aggressions in the struggle with the vanishing bulwarks of the old regime, and fighting the real or the purported enemies, the members of the Convention were gradually turning into a passive mass, submissive to the leaders.

New elements began forming to replace the crumbling tiers of the collective ego-ideal. The attachment and reverence surrounding the old forms of government, the devotion to the King's sacred person had to find a new object of worship. Naturally enough, the new government, the popular leaders, the revolutionary slogans and the country itself, the people, France and by dint of ultimate generalization– mankind and its welfare, have all in turn been serving as objects of veneration. An attempt has even been made at replacing the erstwhile religious ideals with a "made to order" new cult, a new religion, enlightened and free from "superstitions." New ideals of equality, freedom, patriotism were coming into being. They sprang up in the midst of struggle, partly as a reaction and partly as a defense against conflicting tendencies. At a time when the enemies, i. e. the legitimist governments of entire Europe were threatening France from all quarters, the ideal of the country's independence merged with the ideal of the liberty of the people and of the individual citizen into one concept. The fear of the enemies intensified the tension of the patriotic feelings, but was at the same time bound to increase the distrust and the violence of reaction against those who could have been looked upon as silent allies of the external enemies.

However, the feeling of being menaced appeared in other connections as well and undoubtedly became one of the foremost elements of the Terror and its dictatorship.

As certain restraining factors ceased to exist and consequently aggressive impulses and unchecked desires in the collective mind became released, the danger of anarchy was ever-present and broke out time and again in the form of isolated collective movements and actions. Potentially anybody and everybody could become the master. A Hobbesian state of war of all against all existed virtually all the time and continually threatened to become a reality. Against such tendencies – their own or otherwise – the leaders of the Terror erected defensive barriers that were just as violently fanatical as the opposed tendencies themselves.

These tendencies were violent and dangerous to the leaders themselves and to the groups they represented. With the aggressively-anarchistic impulses running wild at that time, anyone who pushed or desired to push to the fore, had reason to fear repression on the part of those to whom such pushing was inopportune. Furthermore, the aggressive impulses glimmering in individuals, were bound

to produce in the masses which despite continuous attempts at setting up some semblance of organized conditions, were becoming increasingly anarchistic, a strong tendency towards projection.

At times incidents of extraordinary sadism and cruelty loomed out of the general background of increased aggression. In all probability the individuals involved were predisposed, and they took advantage of the existing conditions to give free rein to their criminal impulses in a pseudo-legitimate manner; under the pretext of safeguarding France and the Revolution.

The trial of the erstwhile priest Lebon, who for quite some time had been a close collaborator of Robespierre and in that capacity wrought gory havoc at Arras and Cambradi, fills two volumes and contains a fantastic portrayal of unheard of sadism. "This book is a nightmare," remarked one of the historians, "it is a novel by Marquis de Sade, transformed into an epic."

Such symptoms of primitive criminality on the part of hangmen who simply carried out orders requires no specific comments. The sadism of the leaders, however, is quite a different matter. Here the psychic structure is more complicated, the veil of rationalization less transparent.

Fear was the most striking trend in those members of the Convention and of the Committee of Public Safety—who practiced the reign of terror under the baton of Robespierre as chief conductor of the orchestra, the most primitive animal fear for life resulting in the desire to secure protection at any price.

When many years later one of these men was asked what he and his like have been experiencing when sending hundreds of people to their doom, he answered: "We were just living and tried to preserve our lives."

The distortion of the ego drives, kept as they were in a state of permanent tension, could lead only to a complete concentration of one's attention on the sole problem of how to preserve one's life, how to keep from perishing in the all-engulfing wave of doom. With that kind of attitude, the exterminating of one's fellow-men played no consequential part, constituted practically no problem at all. A dictator's companions or, better to say, subordinates, protected themselves from the peril over their heads by sending to the guillotine whomever they could, just as fear-crazed cataways push their companions in distress

into the sea so as to climb themselves into the life-boats.

The higher, however, in the hierarchy of the party and of the executive body of the Terror we go, the more complicated are the individuals we encounter, the more involved becomes also the psychic structure of their terrorism.

The desire to remain in power still belongs to the category of simple motives. One would not possibly dispute what Sorel said: "The Terrorists of the Revolution resort to terrorism because they want to remain in power which they could not keep otherwise. They use it for their own safety and subsequently claim the motive of safeguarding the state."

On the highest tier of the psychic hierarchy we find vast ideological structures. The new objectives and the new ideals which had to replace in the collective psyche the former values that were destroyed, needed to be supported at all cost. These new ideals, however, were being attacked, the protagonists of the old values were either still actually existing, or else, under the influence of fear and mistrust, were being seen lurking everywhere. To keep the new ideals alive they had to be defended, threatened as they were at every step, threatened also by the old unconscious fixations. The fact of the King having been murdered did not at all mean that his psychic image had been destroyed and that the people were fully ready to accept all the substitutes that were being prepared. The past possesses unconsciously a powerful charm, according one must defend himself against the past, cut away from it forcibly, the more so, if one senses it in thousands of fellow men.

New values were being set up, equipped with an immense charge of emotions and impulses, which charge represented partly the aggression against the erstwhile images and their real representatives. But it also expressed the yearning for a new power, for happiness and greatness, the desire for rebuilding— though in a new form—of the foundations which had just been destroyed. These new ideals seemed so great and so glorious, that to the masses of the people, and primarily to the leaders, they became the very reason of their existence. There set in on a large scale a process of identification of the people with the new ideals. Whoever opposed them was ipso facto considered a personal enemy. And as he was a personal menace and at the same time a menace to everything that was held dear, to wit, France, the Republic, Liberty,—nay, mankind itself, he had to be destroyed.

"We shall make of France a graveyard rather than not regenerate her after our fashion," declared Carrier.

The sadism of destruction finally donned the cloak of supreme sanction. Supposedly only evil was being destroyed for the purpose of creating only good. The emphasis was shifted with unbelievable ease and destruction became an objective in itself, because the gratification it afforded was too great to resist.

At the same time set in a process so typical and characteristic of all fanaticism, a process which might be called the division of the light from the darkness. Any personal expedient, even any crime which served the interests of the new rulers became unconditionally good. On the other hand evil, unconditionally was everybody that dared to offer opposition or seemed to do so, dared to thing differently, or to maintain a suspect aloofness.

The delegates to the Convention, after the fashion of apostles of a new, different and uncompromising creed, or of the agents of the Holy Inquisition could not afford any reflex of pity for their victims. They were not bound by any legal restraints since they have been the very ones who had destroyed the existing system of laws and were themselves the fount of new law, the incarnation of any and all standards. It was the question of making France and the people happy at any price, whether France and the French people liked it or not.

The years long collaboration between the "Incorruptible" and the arch-criminal Lebon presents the most glaring example of that attitude. The assistance Lebon rendered to Robespierre in carrying out his policy, and in offering blind acquiescence to his views, were more precious and more important to him than all other considerations. To Robespierre, backed as he felt himself to be by absolute truth and absolute virtue, everything else was inconsequential, was but a means to a sacred end.

Who was Robespierre as an individual and as a figure of his time, and how did he become the Dictator of France?

At the age of seven he lost his mother and became dependent on his relatives, his father being a shiftless, erratic individual, who since the death of his wife, to whom he was greatly devoted, had completely lost his bearings. By the time the future dictator reached the age of

fourteen, his father left home never to return. He disappeared without leaving a trace, abandoning three children to the care of relatives. Maximilien endured his lot, his poverty and the poverty of his younger brother and sister with proud stubborness. The memoirs of his sister Charlotte contain the following passages: "It would be hard to measure the depth of the impression made on Maximilien when we were left orphans. A total change was wrought in him. But when he saw himself, so to speak, head of a family, he became sedate, thoughtful and hard-working."

While a student in a lyceum, he was hardworking, industrious and proud, keeping aloof from his environment. His teacher, abbe Proyart, speaks of him as follows: "Pride, the only guide of his actions, made him apply himself to his studies at the College of Arras, and it was not long before it was seen that, if not a genius, he was nevertheless a patient worker. The state of poverty in which he found himself penetrated his soul and the idea of misery revolted him."

Robespierre felt himself wronged by fate because the poor opinion in which his father had been held seemed to reflect on him as well. This was a great hurt to his pride and he reacted to it with characteristic changes in his personality.

His industry as well as a certain degree of asceticism, indicated that he resolved in earnest to redeem the tarnished reputation of his family, and, as his sister Charlotte justly remarked, to become a good, respectable head of his family, to prove what he could accomplish by himself, without the support of and even against public opinion.

The extent of the psychic trauma he suffered because of his father was revealed in the following, significant confession: "Such souls (those whose parents have disgraced them) will find within themselves only the bitter sentiment of injustice, the injustice of which they are the victims. Their minds, irritated by this inhumanity, can only conceive sinister ideas and cruel projects. To fill up the cup of horror, it only remains to see them one day themselves lie under the sword of justice." We find the reaction produced by that hurt still operating many years later. Everything tends to show that they were of considerable import as determinants for the future.

Elected to the Academy of Arras, Robespierre, instead of delivering an oration in praise of his predecessor, as tradition required, spoke

of the origin, the injustice and the harmfulness of the prejudice which caused the infamy attached to wrongdoers, to cling to their family. But that was not all. Shortly thereafter, he published an essay of his own on the same subject. (Royal Society of Arts and Sciences in Metz, 1784.)

The essay in question contains an evident figment of imagination, perhaps even a daydream of the King bestowing a signal honor on a man despised by reason of the wrongdoing of a member of his family. At some future time then, this man, an obvious substitute for Robespierre, would find recognition through the grace of the imaginary king-father, or else because of his own merits. Wronged and despised, as he had been, he was to be rewarded for his virtue, earn preferment because of his high moral value. We may reflect that in the end Robespierrie himself was to reward the virtuous and chastise all wickedness and vice, through which he had himself suffered so greatly: He then would be the supreme judge of virtue instead of being the object of contempt and pity.

A human society which tolerated such iniquities was unique, unjust were all its institutions which were based on prejudices. Young Robespierre became aware of human wrongs and human injustice and he resolved to study law so as: "to defend the oppressed against their oppressors, to plead the case of the weak against the strong by whom he is exploited and crushed, this being the duty of anyone whose heart has not been corrupted with selfishness and corruption. It shall be my life's task to succor those who suffer and to be able to castigate with my vindicative words those who without pity for their fellow-men revel in the sufferings of the others."

Robespierre's great sensibility to the sufferings of his fellow-men was one of the main factors responsible for his extending the resentment at his own wrongs to include resentment of the wrongs suffered by others. His sister Charlotte recalls his being upset by the suffering of a pigeon entrusted to her care and from somewhat later years we have documentary evidence how terrifying to him was the possibility itself of contributing to the death of a human being. On March 9, 1782, Robespierre, then a judge, took part in the session of the tribunal at Arras which condemned a murderer to death. For two days Robespierre from sheer grief refused to eat: "I know well," he said, "that he is guilty, that he is a felon, but to make a man die." In the end he resigned his judgeship so as to avoid being compelled to discharge such harrowing duties.

Obviously Robespierre felt sympathy for the oppressed and was most eager to help them. These ideals, however, were clamoring for a more national build-up, which they found in the writings and teachings of Rousseau. His worship of Rousseau made him not only absorb Rousseau's ideals, but furnished the foundations for the process of real identfication. Robespierre and Rousseau, they both believed that the people are by nature good and virtuous, but warped by a wrong social system. It was, then, to be his, Robespierre's future task to bring back that normal condition of innocence and to cleanse it of any and all blemish.

Robespierre's faith was the faith of the "Savoyard curate." On many occasions he stressed the instance of injustice and persecution of which the author of "Emile" had been the victim, although or rather because he was virtuous. In these statements his identification with his idol is manifest. Finally a dedication to Rousseau contained probably in the preface to a report, submitted by Robespierre to his constituents after the dissolution of the Constituent Assembly, stated expressly:

"The consciousness of having willed the welfare of his fellow men is the reward of the virtuous man. The gratitude of the multitude, who surrounded his memory with honours, bestows on him the due which his contemporaries denied him. Like you I would purchase such a prize at the cost of a laborious life and even of a premature death."

Elected to the Constituent Assembly, Robespierre at last was given the opportunity to put his ideals into practical operation and to gratify his ambitions. He was extremely active and industrious, he devoted himself to his labors and it was obvious that, he at last found his true calling. What to others had been only politics, became to Robespierre the essence and the religion of his life.

Rousseau and his ideas absorbed him completely. In his own eyes he had become a crusader surrounded by pagan hordes. Thus he put into reality his own ideals as the defender of the poor and oppressed against the surrounding world of wrongdoers, the true enemies of virtue. His view of the universe was becoming deeply spiritual. "Vice and virtue," he said, "make the destiny of the world. Nature tells us that man is born for freedom, and the experience of the centuries shows us man as a slave; his rights are written in his heart, and his humiliation in history."

Already in that first period of his political activity there could be detected the subsequent stages of his future psychological development and fatal ending.

It was becoming more and more clear, that he was classifying men only in those who were virtuous and those who were corrupted. "There are but two kind," he said, "the kind of men who are corrupted and the kind of men who are virtuous. Do not classify men by their wealth and by their social status, but by their character." The virtuous were those who thought along similar lines as himself, because the process of his identifying himself with his ideals was by then quite advanced. His criterion for appraising other people's morals, based at is was on their agreement with his own ideas, was gradually growing in importance. The ideals of good and liberty were becoming identical with Robespierre. However, as one historian justly remarked, "if Liberty and Robespierre become identical, then Liberty becomes tyranny."

Thus began the process of separating the light from the darkness, a process so fatal in its effects and so typical of any fanaticism. On the one side stood everything that conformed to Robespierre and his way of thinking. It was Ormuzd, the spirit of light and purity. On the other side stood everything that opposed him or simply disagreed with him and was, by this very fact, hostile. That was Ahriman, the spirit of evil, of depravity, of darkness. At the same time began the shifting of the emphasis, which later on was to assume such striking form.

It stood to reason that, in order to strengthen the rule of virtue, evil had to be destroyed. But the negative side of that entire process, though it was to be only a means to an end, very quickly began to gain ever-increasing importance.

Robespierre was gradually becoming an ever sterner judge and censor of men. He was forming the habit of magnifying evil, opposition and danger, so that they blotted out virtue, cooperation and belief in mankind. At this juncture originated his sinister habit of marking down the names of people, who for one reason or another, incurred his his censure. His opinions of people were becoming increasingly caustic and intolerant. The lists of people he started keeping, furnished the material for future executions.

He took himself for a paragon of virtue and did not forgive shortcomings in others. And with what ease he was finding justification for

the acts of violence committed in the defense of virtue and liberty! Acts of ruthlessness and violence committed by others he always condoned under the pretext of lofty ideals having been served by them. At the same time, however, he was beginning to fear danger threatening him and the Republic. With increasing frequency he was suspecting plots and conspiracies, which in reality did not exist, more and more he saw himself and his ideals endangered. This trend became so manifest at the end of the twelve months of his rule as to make Marat remark that Robespierre was following the road of the Inquisition.

May we remark in passing that ideas of persecution with a political background were in those times quite frequent. Barriere, for instance, claimed in his memoirs no more and no less, but that "Marat was a secret agent of Pitt and of the Count of Provence—and Danton was active on behalf of the Commune under the influence of a powerful party located way back in Germany and later on in London."

What was Robespierre's concept of "people," which was forever on his lips and which together with the concept of "virtue" constituted the very essence of his life? We have here a peculiar combination of purely personal ideas merged with ideas of a general nature.

The people, as Rousseau understood it, consisted primarily of the downtrodden classes, deprived of rights and prerogatives as well as of wealth. Outside of that, the people were an agglomeration of plain human beings, unspoiled, uncontaminated by civilization, least removed from the state of primitive innocence, a state in which, in Rousseau's opinion, every human being found himself at the outset of his existence. Hence the people are closest to natural virtue and all they need is that that barriers set up by family social institutions be removed. It was imperative to abolish the ignorance in which the people were being kept by the upper classes.

Moments of personal nature lend a specific tinge to those generous social ideas. The people were being wronged just as Robespierre had himself. The unjust hereditary privileges of the nobility gave to the upper classes the power to oppress those who were superior to them in intellect and virtue. The people were like Cinderella, the pure and virtuous, waiting for a prince-charming.' They were entitled to have their revenge for wrongs suffered. Hence the enemies of the people were also Robespierre's enemies. By wreaking vengeance on their enemies, the people would at the same time avenge the wrongs suffered

by their champion. And finally just as he, Robespierre, despite the bad repute of his father which disgraced him as well, remained virtuous and had the right to deem himself better than those who without good reason had been looking down upon him, the people, too, were the personification of virtue in contrast to the corruption of the upper classes.

Wealth as the symbol of the privileged classes was at the same time the symbol of evil. In Robespierre's mind, virtue went hand in hand with poverty, or at any rate with lack of prosperity and of abundance. This opinion was an manifestation of strong ascetic and masochistic tendencies, which prompted him to shun the joy of life and any so called personal happiness and to see in suffering an expression of purity and virtue. "I, too," said Robespierre, "could have bartered my soul for opulence not only as a prize for crime but also as a punishment for crime and I want to be poor so as not to be unhappy."

In the Constituent Assemblies which succeeded one another, Robespierre fought for the rights of the people and for the enforcement of the revolutionary principles. His standing and his influence were constantly growing and with them grew his self-assurance, as well as the unqualified conviction of the justness of his cause and of his ideas. Robespierre was maturing into a leader, he was getting rid of his comrades and of his adversaries, becoming in the end the leading man of the Terror.

His ruthlessness was growing in parallel with the ruthlessness of the Revolution and he was its exponent, its result and its important factor. Certain phases in the evolution of his ideas and of his personality merit special attention. While fighting for the rights of the people and for the consolidation of the Revolution's achievements, Robespierre saw around him only three categories of people, to wit, antagonists, indifferents and friends. For the first category he felt an ever increasing hatred and he kept on enlarging this category by including therein every opponent in whom he began to see a mortal enemy. The indifferents he tried to stir up, to shake them out of their lethargy, to make them follow him, as is evidenced by his carefully and elaborately prepared speeches.

The category of friends included his collaborators who thought and felt as he did. Their power grew as his increased and it was they who as the Jacobin Club and the Committee of Public Safety constitu-

ted the government properly speaking, which ruled both the Convention and France.

It was his friends, who with himself at their head watched over the purity of the revolutionarw doctrine, or what Robespierre called virtue. They alone, and as time went on—only Robespierre himself knew what true virtue and true liberty were. It was his friends, who, against a background of dangerous and ever-multiplying enemies, either real or imaginary, as well as against a background of the inert masses, acquired all the importance and all the prerogatives of the "people." Only they knew what the people needed to be happy and by what means that happiness was to be attained. And if the people themselves failed to understand their own happiness, then it was to be imposed on them by force.

Thus the entire power taken away from the former government and from the old institutions, became incarnated in a new ruling group, which as to power, despotism and ruthlessness, immeasurably surpassed the old regime. Moreover, instead of the former class distinction there came into existence—against a background of an apparent equality—a new elite, a new ruling group which, while the appearances of a democratic parliamentarism within the Convention were being preserved, was getting more and more absolutistic in its decisions.

All the rays of power, strength and authority were assembling in the person of Robespierre, as if he were a focus of a lens. He himself consciously cared for power only insofar as it was the means for bringing his ideals into realization. His ego-ideal commanded him to strive for the speediest possible formulation of a new state of virtue, at the head of which he was to stand himself, a high priest, as it were, of a new deity.

Robespierre, who as a lad played at building shrines, was now putting his endeavors to the formation of a new system of religion, based on virtue and an pure reason. True enough, he had been instrumental in destruction of the established religion but his ultimate purpose was to build up a stronger edifice. His need for preserving religious bindings and for obtaining sanction for his own acts was so strong, that it commanded him to form a new system of religion. This system most obviously had for its objective not only to hold in check anarchistic impulses, which have been erupting from time to time in himself and in other Frenchmen, but also to give proper sanction to all of his acts.

Provided the latter have been executed in the name of virtue and have in addition received the supreme religious sanction, the perhaps the sense of guilt, deeply ensconced within him, might have been stifled. Let us bear in mind that the feast of the Supreme Being was Robespierre's first act after the bloody executions, that it was this religious ceremony that France, waiting with bated breath, received from him as a first offering.

It was he who established a new religion, becoming at the same time something of a high priest, of a supreme representative of the new deity. In this way his narcissism found its supreme gratitification which ran entirely along the line of the requirements of his ego-ideal. Instead of the destroyed image of the divine Father, a new image—in fact, only a repetition of the old patterns—has been set up. It was a product of Robespierre himself and it rewarded him amply just by the fact that he himself had been the author.

We see that had Robespierre made but one step more along this line, he would have proclaimed himself a god like some paranoiac or paraphrenic. Active within him, however, were not only a certain self-control and a sense of reality, but he was equally influenced by the spirit of a sceptical and enlightened ear. Accordingly, Robespierre halted at the threshold of the temple, entering it only in the capacity of a representative of the deity. That moment brought him supreme happiness, his face bore an ecstatic expression and he approached the altar of the Supreme Being like a veritable high priest.

His dissatisfied rivals and the deputies were fully aware of the situation. There was grumbling among them. The leading part the Incorruptible assigned to himself during the celebration was not to their liking. They were saying that he was pushing to the fore so as to be able to rule over them.

The deity as created by Robespierre did not in the least belie its origin. Its priest himself said that the Supreme Being "had since the beginning of time decreed the Republic." The Jacobin Club which had assumed the character of Robespierre's advisory council was volubly proclaiming the glory of the deity which protected oppressed innocence and chastised suppressed crime. There is little, if any, need of additional evidence that this deity was an emanation of the Incorruptible himself, an incarnation of his idealistic megalomania, and of his narcissistic super-ego.

The task begun by his religious move, at least apparently accomplished its purpose insofar as Robespierre's mind was concerned. From then on, all of his political activity assumed a more and more ethico-religious aspect and he himself was becoming a militant prophet, and apostle of virtue and of a simon-pure Republic. As terrorism was growing in intensity, his public addresses branded political opponents and aristocrats as simple criminals, and from the middle of 1793 on, political terminology was being supplanted by abusive epithets, such as felon, criminal, monster.

This shows how emotions were more and more submerging any ideology. The circle of those who could be considered as pure and true representatives of virtue, as pure and unblemished souls, was getting ever narrower. They were deserving of such distinction primarily insofar, as they were a reflection of the ideas of Robespierre himself, a multiple image of his narcissism.

That narcissism found its reflection in the worship which surrounded him, especially in his immediate environment. As we know, Madame Duplay succeeded in retaining him in her household, in the midst of her family. She mothered him, thus conjuring up the image of his beloved mother, she surrounded him with loving care, spread the cult of his person, all the while tyrannizing him after her fashion. Robespierre gladly submitted to the despotism he enjoyed and continued living with the Dupays, very much to the chagrin of his jealous and tender-hearted sister, Charlotte. Among the documents of the time, a description of a visit paid to Robespierre by the Deputy, Barberoux, has been preserved. While the visitor was waiting in the drawing room, he was being gazed upon from all sides by portrtaits, busts, etchings and woodcuts depicting Robespierre, thus giving Barberoux the sensation of being in a sanctuary.

To his contemporaries Robespierre presented a very complex picture. Expressions of worship were mingled with sharp criticism and even hatred. Corresponding to his own narcissism was the cult with which he was surrounded by his constituents, by the masses, by his audiences, by his colleagues and by women.

When he was ill, the mob was restless, full of fear, while waiting for news on the condition of the leader and protector, who alone was capable of saving France and of crushing her enemies. The police report ran as follows: "Near the Jardin des Plantes a large crowd was dis-

cussing Robespierre's illness. The people appear to be so moved by it, that they say all is lost if Robespierre dies. He often detects the plots of evildoers. Only God can preserve the life of this incorruptible patriot."

And only a few weeks prior to his downfall, an old soldier wrote to him as follows: "I regard you, citizen, as the Messiah promised to us by the Supreme Being to reform all things."

The cadets of St. Cyr, the foremost French military school, were being dubbed Robespierre's pages and Aimee Cecile Reynault, who was convicted of an attempt to kill the dictator, was sent to the guillotine wearing the garb of a parricide.

All these facts are quite characteristic and indicate clearly the position of the Incorruptible in the collective mind of the French people as well as the extent to which he had become endowed with the attributes commonly associated with the image of a father of the country.

What was the riddle of the fascination he evoked? He was a mediocre speaker, his public addresses were lengthy, methodically and minutely prepared, full of pathos, his voice was not overly resonant and devoid of the glowing fire of the effective orator. And yet he enraptured his listeners who crowded every inch of space, the women became ecstatic and sobbed from enthusiasm. The sweeping power of his convictions is best illustrated by a description of Robespierre's speech contained in a letter written by Camille Desmoulins: "You could not possibly picture to yourself with what abandon, with naturalness he delivered himself of his emotions. He moved to tears not only the women in the galleries but also half of the assembly."

A survey of his public addresses above their lofty, magnificent enthusaism and flaming idealism, their consonance with the momentuous events which were shaking France indicates that Robespierre had for quite some time the feeling of the great mission to be accomplished by the French people, once it had been set free by the Revolution. In time, however, the sense of his own mission began pushing to the fore.

Let us hear how he issued a clarion call for victory: "Citizens, victory will decide whether you are rebels or benefactors of mankind and it is the loftiness of your character which shall decide the victory" (2nd speech on Louis Capet).

And that was the way he proclaimed the gospel of his ideology: "Man is born to happiness and to liberty but everywhere he is a slave and unhappy. The objective of human society is to protect the rights of man and to improve his nature and yet society everywhere degrades and oppresses him" (Speech on the Constitution, May 10, 1792).

Let us now see to what heights he extols the people, which—once it has been elevated so high—had perforce to become an abstraction.

"First of all set up the incontrovertible axiom, that the people are good and that their delegates are corruptible. It is in the virtue and the sovereignty of the people that a safeguard must be looked for against the wickedness and the despotism of the government . . . There is but one champion of the people I could possibly concede, that is the people themselves.

And the praise he gave to the Revolution: "Furthermore, should all of Europe declare against you, you are stronger than Europe. The French Republic is as invincible as reason, it is as immortal as truth" Report on the political situation of the Republic. (November 18, 1793).

And then again his certainty of ultimate victory: "Whatever be the personal destiny which waits you, your triumph is certain. Isn't even death of the founders of liberty a triumph in itself?"

With all his success as an orator, Robespierre felt uneasy every time before he had to make a speech. When he was beginning to speak, his hands shook and his voice faltered. After a while, however, full mastery as well as absolute certainty of himself and of his cause returned. The inflexibilty of the pricinples he championed, the firmness of the objectives towards which he strove, the ruthlessness with which he endeavored to carry out his his ideas as well as the unusual fervor and strength of his convictions were all bound to create a powerful impression at a time when all the old institutions were collapsing, general uneasiness was growing apace and the peril of anarchy was constantly threatening. All of his merits, however, could for obvious reasons not have proved sufficient, had it not been for a deeper-reaching affinity between the psychic structure of the leader and the psychic condition of the masses.

The easy behaviour of others in their relations with him evoked in Robespierre a sensation somewhat akin to fear: he himself nothing

but stiffness, mistrust and an almost boundless timidity. He trembled when some one unexpectedly, by way of greeting, slapped him on the back in friendly fashion. And when in the Jacobin Club he had to kiss some opponent as a token of reconciliation, he did so, blushing deeply and with a disgusted face, the face—as Danton expressed it—of a cat that has tasted vinegar.

In his relations with women he displayed an equal degree of reserve. He consented to suffer their adulation from a distance, but with all his utmost politeness be refrained from an familiarity. The only clear-cut emotional relationship was his submission to the maternal care of the imperious Madame Duplay. The latter's daughter was supposed to have been Robespierre's fiancee, but all evidence on hand rather tends to show that on his part there had neither been the question of an emotional commitment nor of any real attachment.

Nor did Robespierre's stature and physiognomy give the impression of virility. He seemed timid, delicate and not altogether sure of himself. All of those shortcomings, however, receded in the heat of battle, on the speaker's stand, in the Convention or in the Jacobin Club.

What were the inner processes which kindled in the soul of the Incorruptible the flame of hate that eventually was to consume himself. During the King's trial he has been, as it seemed,but the mighty mouthpiece of the people, who desired the destruction of the old regime. But what also strikes us in this connection is the impatience and the impetuosity with which he insisted on the King being condemned. He delivered two momentous orations on this subject and in the second he protested with greatest vehemence against the motion submitted by one of the deputies, that the verdict be ratified by the National Assembly. In that speech we find the characteristic admission which—as subsequent events fully proved—carried an ominous note. "Inexorable that I am, when it comes to calculating in an abstract manner the degree of severity which the justice of the laws must display against enemies of mankind, I felt the republican virtue in my heart waver in the presence of the culprit standing humiliated before the sovereign power . . . . But citizens, the supreme proof of devotion which the representatives of the people owe to the country is to sacrifice the initial stirrings of natural sensibility, to the salvation of a great people and of oppressed mankind."

The force of Robespierre's hate became revealed in the heat of battle. This hatred, while still rational at the time the Robertists were wiped out, was already ringing like the rumble of a fierce frenzy, which was to exterminate Danton.

Wasn't the latter one of the instigators of the Revolution, a fellow-combatant, nay—a friend? After Danton's wife died, Robespierre wrote him a letter in which he said: "I love you more than ever and unto death. At this moment, I am your own self. Let us weep together my friend and may we soon make the effects of our profound sorrow be felt by the tyrants who are the cause of our public misfortunes and of our private griefs."

Such would-be identification might seem a most enduring foundation of friendship, but the second part of the quotation presaged, as it were, the future depravation. Responsible for personal misfortunes were to be the tyrants, the boundary line between public and private misfortune was to become blotted out, misfortune called for vengeance and punishment. If, by misfortune we were to understand not only real annoyance or grief, but also the vestiges of previous hurts, then a substantial portion of Robespierre's depravation would become clear. It was quite possible that the judgment on Danton was passed unconsciously in the soul of Robespierre at the very moment he was penning his letter to him. He, unhappy, filled with concealed hurts and mistrust was unable to forgive the other man the happiness, the success, the vitality, the love he gave and received in return. The one who was experiencing a continuous sense of frustation could not bear the other man's over-flowing abundance.

Attention had frequently been called to the antagonism resulting from the contrary psycho-physical constitution; on the one hand the asthenic schizoidy of Robespierre and, on the other, the superb pycnic cyclothymy of Danton. Still no one yet committed murder because of a disparity in psycho-physical constitution.

The extermination of Danton was being prepared with the the greatest of perfidy. Billand-Verenne was used to bring the first charges. The Committee of Public Safety voiced its indignation, while Robespierre even as much as defended him at first, only—as Legendre reported—to execute him the easier later on.

After Herbert's execution, Robespierre dropped Danton without any reservation. He furnished St. Juste with secret memoranda to

serve as material for the terrible accusation, full of lies and hatred. As there had been in fact no material on which to proceed, it was fabricated from falsehoods and prevarications. Fearing lest Danton's self-defense might check-mate the accusers Robespierre endeavored to prevent it. The Assembly was seething at the thought of sending the hero of August 10th to the scaffold, without first giving him a hearing. That was the moment when the Incorrigible delivered his final, death-dealing address.

Such avalanche of hate and grudge must invariably spring from a personal grievance. The entire ideological superstructure is at best but a rationalization and justification of the discharge of the impulses of hatred and destruction.

Jealousy played in this instance a large and possibly even the most important part, just as in the case of Robespierre's relationship to Desmoulin, whom he envied the latter's literary talents. Danton on the other hand, was a born tribune of the people, who had it in him to become in Robespierre's stead the one and only worshipped leader. Accordingly, Robespierre with a fury of passion destroyed the rival and in him the personification of virility, boldness, optimism and luck. It seems as if he had taken revenge on him for his own grievances, his own inferiority complex, for the wrongs he suffered and for his lack of manhood.

If in his indictory speech he asserted through the mouth of St. Juste, that the Revolution was by no means to devour its children but that it would "devour to the last the friends of tyranny and not one true patriot would perish for the cause of justice," such assertion, replete as it was with good faith, was bound to become formidable the moment it was reversed. He who perished was not a true patriot and he on whom suspicion fell was not a true friend of liberty.

The people were infallible but only when personified—as an abstract concept—in Robespierre, the true defender of virtue and liberty. Being infallible, he did not admit of the possibility of a past or future error and it was only natural that he indignantly rejected the pleas made by wives of men who have been arrested, for the release of the "innocent" husbands. "Does the people's justice attempt to punish the innocent?" What blasphemy!

Here began the path leading to two fundamental mental distortions which in time were to gain possession of Robespierre's mind. One

of them was the ever more absolute identification of his own person with the Revolution, with France, with justice, with virtue and with the people, the other was the division of reality into absolute good and absolute evil. He alone stood at the core of the former, while the realm of evil was growing ever wider.

Mistrust, fear and hatred in his relationship to real or alleged enemies, made him scrutinize them more and more minutely, and in the end, spy on every move they made, so as to detect in time an indication of future conspiracies and plots. From this habit originated the notorious register of men in which Robespierre each day recorded his comments on people, comments which were exclusively negative, full of suspicions and hostility.

But he did keep also a record of himself, where he daily signed the pages of entries about his own person. Here, however, insofar as he himself was concerned, his watchful eye discerned nothing but ever greater perfection.

The people in general, however, appeared to him more and more imperfect, his distrustful eye was discovering ever more enemies of the people and at the same time of himself. There was developing within his dream of achieving ideal virtue if not necessarily in the people as a whole, then at least in the Convention–and if not there–then in the Committee of Public Safety. There were being formulated plans for future purges, so thoroughly reminiscent of Bolshevik practice. "The Terror," Robespierre declared, "is nothing else save Justice, prompt, severe and inflexible. It is, therefore, an emanation of virtue." (February 6,1794).

The Terror itself, at the time of its highest tension, had for its objective so to purge France as to become completely superfluous, whereupon the idyl of a pure and fully liberated people was to set in. In this way the most ghastly cruelties were to prevent, for all time, further repressions. One is really hard put to imagine a more ideal motivation for cruelty. But it must have been ideal in a man, who previously, as if foreseeing his own possibilities, issued a warning in one of his public addresses, saying for all to hear: "Woe to the man who should dare to turn against the people the Terror, which should strike only the people's enemies."

His love of France, liberty and Revolution was saturated with hate. Robespierre could have without any reservations subscribed to

the ominous words of St. Juste:: "There is something terrible to the sacred love of the country. It is so exclusive, that it sacrifices everything without pity, without fear, without any human consideration to the public interest." (Report of the 11th Germinall).

The absolute rigidity of ideas surcharged with motions was one of time and of the nature of the struggle. In the opus of his youthful days, the treatise which awarded a prize of the Academy of Metz, Robespierre, when defining the concept of philosophical and of political honor, displayed already at that early date a cult of absolute ideas. The first of the two honors which "has reason for its basis and merges with duty, would exist even when far awy from the eyes of men, without other witness than heaven and without a judge other than conscience." We better make careful note at this very juncture of the fact that this absolution was a reflection of the absolution of the super-ego.

The same absolution commanded Robespierre to take ideals of his youth for reality, to see Rousseau's and his own beautiful phantasies as things living and tangible. When it later turned out that those ideals existed only in his imagination, his indignation and the full force of his hatred was turned on against all those by whose fault—so he believed—those ideals became warped. Man is born good—as master Rousseau thought—and only civilization has depraved him.

Nothing is more characteristic in this respect than the apotheosis contained in the decree of the 18th of Floreal, a decree on the "Supreme Being and feasts in its honor." Robespierre was exultant over the Revolutionary deeds of the French and confident of the approval on the part of the heavenly powers, he exclaimed: "Being of beings, the day when the universe came forth from the all-mighty hands was it shining with light more pleasing to thy eyes than on this day, when having shattered the yoke of crime and of error, it appeared before thee worthy of thy consideration and of its destinies."

But just as Satan once upon a time disturbed the paradisiacal idyl of our forebears, this French idyl was unable to prevail against the machinations and intrigues of evil-doers. "The charlatans became active again, faith and sublime unification of the first people in the world having come to pass, who would have thought that crime was still in existence on earth."

And thus the hymn in honor of the Supreme Being changed into an ominous accusation against the enemies of the people, whom he fully identified with his own.

It was they who wanted to make a tyrant of him, they themselves accused Danton and now, wanting to destroy the Incorruptible, they dared to reproach him, Robespierre, with Danton's death. And the high-priest of the Supreme Being closed with a portentous statement: "I was made to combat and not to govern. The time did not come as yet for the man of merit to serve the country with impunity; the defenders of liberty will be nothing but outlaws as long as the horde of rogues shall dominate." Thus the high-priest became the prosecutor, the gendarme and the executor, all in one.

The culmination of the indicated line of evolution was the law of Prairial which frustrated the justice of any legal procedure by depriving the accused of the right to defend themselves. It proceeded on the theory that the people's judges were the best friends and defenders of the accused. Since they were representatives of the people itself, i. e. of virtue, they were the reflection of the "absolute" of which Robespierre more and more imagined himself to be the incarnation.

The more victims, however, he sacrificed at the altar of that "absolute," the greater sense of guilt must have been rising within him and the greater must have been his need of justifying his actions by an ever growing conviction as to his mission and greatness. It was not a matter of coincidence that, directly after the mass executions, with Danton heading the list, and when all France, nay, all of Europe, was waiting with bated breath for the next step of the victorious leader of the Revolution—he arranged the celebration in honor of the Supreme Being. That was to be an attempt at his final exoneration.

One evening in the drawing room of the Duplay's, he was reading from the works of Monetsquieu his favorite dialogue between Sulla and Eucrates. The assembled guests noticed that, though supposedly reading, he was not looking at the book. So deeply imbedded in his memory were the words which were practically intended for him: "It was exactly the shedding of all this blood that enabled me to carry out the greatest of all my achievements. If I ruled the Romans mercifully, I might well have been induced to abdicate my office by vexation, disgust or caprice. But I laid down my dictatorship at a time where there was no one in the world who did not believe that dictatorship was my only safety. I appeared before the Romans, a citizen among fellow-citizens, and dared to say to them: 'I am ready to answer for all those who come to plead for a father, a son or brother.' All the Romans were silent before me."

The conviction of being absolutely right was perforce essential to Robespierre for being able to bear up under the ever-increasing sense of guilt, to detach himself more and more from reality, with his gaze focused fixedly on the "absolute" of his objectives and ideals.

His ideals, growing from day to day more absolute and more remote from reality, absorbed practically all of his libido. Seeing nothing but them and fascinated by the part he was playing, he lost completely the sense of a border-line between his own person and the public cause. Thus he was able to give vent to his hate or to his injured pride all the while that he was doing it for the sake of the Republic. He could take personal vengeance while deeply convinced that he was avenging France. His true objective, was not so much dictatorship as the creation of a new France according to his own ideas. A letter has been preserved in which one of his contemporaries, who designated himself as his fraternal friend, with rare perspicacity perceived, after having listened to a number of his addresses, delivered in the Committee of Public Safety, the extent of the peril toward which Robespierre was heading. He tried to warn him, of course, in vain. "After attending several sessions, I became aware of the fact that you alone were holding the association spellbound and also that the galleries were on your side and so were a large number of the association. To speak always, always of oneself, of one's virtue, of one's principles, of the sacrifices one made for liberty, of the dangers one is surrounded by, is to use the well-known means of getting votes." And he closed with a note of warning: "You are far removed from entertaining views so destructive to the principles of liberty; but who could give you the assurance, that some nefarious influence will not move you in that direction by degrees and in an imperceptible manner."

The Incorruptible's conviction as to his being right was so deep, the idealization and rationalization of his own emotions and actions so powerful, that up to the ultimate moment, up to the tragic finale, he considered himself a victim of his foes and of villains. If, therefore, his last address, the outbreak of grief and indignation, that farewell of the perishing Titan, contained an accusation instead of a defense, it was by no means a hypocrisy on his part.

"What am I," exclaimed the doomed hero of the Revolution, "but an unfortunate slave of liberty." He stood before the hostile assembly a victim of intrigues and plottings of enemies, of himself and of the Revolution and onto their shoulders he laid the blame for all sins and

crimes, made them responsible for the Terror for which France had been execrating him. And if—as it seems to me—there has not been any hypocrisy in his address, only the deepest of convictions, we must ask ourselves whether that conviction was not actually an illusion so powerful as to become a delusion of a paranoiac.

And here is where we arrive at the most difficult and perhaps most important problem of this study. To what extent, we ask, was Robespierre himself really responsible for the entire course of his actions which led to the Terror and to what extent was he responsible for the Terror itself.

We must admit that the very description of the part itself played by Robespierre is but an artificial abstraction. Swept to the top by the tide of Revolution, carried along by the waves of events and human passions, what has he really been but a victim of the Revolution? Even the Committee of Public Safety, the chief stage of his activities in the latter years of his public career, had not been organized by him but by the Girodist, Inard and by Danton. That was early in April 1792, when after Dumouriez' treason the peril of foreign invasion was threatening Paris, the capital was becoming deserted and parliament was hopelessly divided. At what moment the Committee of Public Safety came into existence as a centre of the national and revolutionary spirit, Robespierre had nothing to do with it, but it became the principal instrument of his final domination.

The masses of the people, anarchistic, frequently torn asunder by internal strife and bordering on panic, needed a leader who would personify their ideals, become the centre of their desire and emotions, the instrument of their collective will. From being oppressed they were to become rulers, from being contemptuously scorned, they were to turn powerful and victorious. The person who was to become their leader, the symbol of victorious revolution, had to be a man propelled in the same direction by his innermost impulses, a man who threw himself into the whirlpool of the Revolution to restore justice for others and for himself.

He remained at the top, after having removed his rival, because he was the one who was most convinced of his right, because no doubts whatever assailed him and because his own complexes and ideals coincided in full with the collective spirit. A devoted pupil of the great Rousseau, he took over from him, in the disguise of sublime ideals, the most convenient form of idealizing his own emotions and his own

hurts. His personal problems could become the core around which crystalized the desires and anxieties of the French Masses.

We have seen that in Robespierre's mind was taking in ever stronger process of identification of his person and ideals with France, with the Revolution and with the abstraction, which he called the French nation. Though the sense of his own greatness and of his mission—I think at times happened to find itself at the border line of true megalomania—was on the one hand the expression of his own narcissism, on the other hand it focused in itself the desires and the ambitions ofa people shaken by the Revolution. By worshipping himself and his own virtue, he pointed out to the people their own greatness and their superb destiny. In these delusions of grandeur spun by the noble-minded fanatic, the desires and ambitions of an entire people were reaching their pinnacle and their ultimate end, while at the same time those delusions of greatness compensated for all apprehensions and anxieties. France was to be great once again, great by her mission, the people were actually to become the personification of virtue and purity, while their bravery would overwhelm the most powerful foes. The destroyed glory of the old despotic regime was to come to life again in the noble shape of an ideal radiating far out into the entire world. The blood and the suffering were but a preparation for that paradise of the future as if for some Kingdom of God on earth. Robespierre designated as one of the objectives of the Revolution "the substitution of the charm of happiness for the boredom of voluptuousness, of the greatness of man for the smallness of this earth." Happiness and greatness were to be henceforth accessible to all who became deserving of it by their virtue, in other words, to all those who in Robespierre's imagination were to become the multiple, perfect reflection of his model virtue. In this way, they would share in his greatness, just as he felt great not as himself, as Maximilian de Robespierre, but as a representative, a defender and a champion of the people.

The worship he was surrounded with, the adulation he was receiving, the success that came his way, must all have intensified this process of mutual identification, nurturing the sense of his own greatness and of his mission. Thus, his megalomania must have been growing in proportion, carrying him to the summits of ever greater self-adulation and growing denial of reality.

The actual reality, however, interfered—as it always does—with the realization of ideals. The obstacles were truly real and were not to be reduced exclusively to plots of opponents, enemies and "charlatans." However, both Robespierre's mind dwelling as it did in the realm of exultation as well as the collective mind wavering between exultation and anxiety, were able to see only the personal enemies, as it were. Around these enemies were clustering all their fears, anxieties and all their hatred.

If he, Robespierre was to a constantly increasing degree becoming the victim of criminals and "charlatans," then the hapless French people, just as virtuous and pure as he, became just as much a victim and martyr. The leader's swan song on the 8th of Thermidor, the eve of his downfall, contains in addition to an apology of himself, also an apology of that unfortunate, persecuted people.

Was this idea really nothing but a delusion? Certainly not. There was in it a core of truth, nothing but a core—around which settled an entire atmosphere of mania of persecution. Similarly, delusions of jealousy, have not infrequently a point of departure in some real facts and observations.

France was surrounded by enemies. The Revolution had both external and internal opponents. The intentions behind their plots could be felt, the results of their conspiracies were visible. Robespierre's hatred originated in part in the heat of battle just as did the hatred of Sansculottes. It was, however, a peculiarity of his mind, that his hatred once set in motion, never again would stop but kept on rolling like an avalanche ruining his soul, the soul of France and the Revoluand of his comrades in battle.

Within the Committee of Public Safety, the scene of Robespierre's chief activity, emotions of mental fear and hate were at work side by side with emotions of mutual attachment. Sorel desribed the psychic structure of that collective body and the relationship of the Convention to Robespierre as follows: "As great as has been the villiany of his colleagues to him, it was still exceeded by his fear of them. The servility of Robespierre's colleagues in the Convention in no way rested on sentiments of sympathy toward him. His dictatorship inspired in them an unsurmountable fright, but behind the outward signs of admiration and enthusiasm which they showered on him because of fear, was hiding an intense hatred."

Robespierre's destructive hate becoming ever more active was bound to turn against all those who disagreed with him and to merge with the hate of the people. To him any deviation from his way of thinking, the only just and virtuous way, constituted at once a danger, a personal threat to the public cause. Such deviations had to be fought as vigorously as possible and with utter ruthlessness. We have heard these words before: "Tomorrow is nothing else but justice, prompt, severe, inflexible; it is therefore an emanation of virtue."

And so Robespierre, the personification of the ideals of his people and of his period, the receptacle of his own hate and the sound-board of collective hate, kept on destroying the enemies of the people, but at the same time he was destroying the Revolution. Faith in the triumph of virtue and liberty, faith in the ideals and in the sincerity of their protagonists, diminished with each succeeding execution. How could the French people have produced from among themselves new leaders when Samson, the official executioner of the Revolution, showing to the people from the scaffold the pale heads of the revolutionists, warned them about being continually duped?

The new, still thin layers of the collective ego ideal were bound to be destroyed by the Terror. Robespierre's downfall was the tragic expression of the reaction of weariness and of the hatred which he eventually called forth. We know how he defended himself, how in defending himself he accused, not unlike Socrates,—how, though seeing his downfall, he still did not lose faith in his greatness and his immortality. When escorted to prison he said, pointing to a tablet on which were inscribed the rights of a man and of a citizen: "And still it was I who have done it." Maybe in the closing moments of his life, his super-ego, cleansed of hatred and face to face with the destruction of his person, he displayed the full nobility of its ideals against the background of the sublimated narcissism of the apostle of virtue and liberty. The ideals of the masses, however, appeared to have been destroyed and the ground for the reign of Reaction was prepared. "There set in," says one of the contemporaries, "on the very next day after the 9th Thermidor, a metamorphosis as was never seen, neither in any other period nor in any other people. There was like a different France, having a different heart, a different spirit and speaking a different language. Even the expression on the faces seemed to have changed."

Under the circumstances, the behavior of the crowds during the execution was not surprising. Was it not the king, the leader, the

exacting father of the country, who was being killed,—a man whom the people feared, who for a time had been the embodiment of new ideals, a model to be imitated and the categorical imperative of the liberated people. He demanded so much that the hatred against the severe preceptor found an outlet in the passion with which he was executed.

By the way of contrast, in the period of the Directory which followed the Terror, the principle of pleasure gained ascendancy over the gratitude flowing from virtue.

True enough, Robespierre himself to a large degree helped to dig the grave for the Revolution. Still, such was the tragedy of that historic moment, that the Revolution itself perished with him, who had been its embodiment. The dictatorship of virtue and terror prepared the ground for the subsequent stages of despotism, leading finally to Napoleon. The return of the monarchy was effected via a military dictatorship and, with liberty and equality abolished, a new master became the object of worship. The glamour of the Court with the trappings of titles and decorations returned once more and Frenchmen, instead of dying that virtue and liberty might live, were dying for the greater glory of Bonaparte.

Weariness, unending fear and panic worked not only in favor of a reaction, but actually produced a submissiveness to the new dictatorship, to the new ruler, powerful, ruthless and with an unswerving belief in himself. The one, who—as Hegel put it—"took virtue seriously and gave it the foremost place in the ordering of policy," was gone, but in the souls of the people, enervated and bewildered after passing through the mad years of the storm and stress of the Revolution, he blazed the trail for the one who took seriously only his own ambition and who in turn became the ideal of greatness for the masses. While Robespierre and the Revolution were perishing, the sun of a new dictator was rising on the horizon; one of the armies of the Republic was commanded by General Bonaparte.

What is then the psychoanalytical silhouette of Robespierre. In his psychic structure we perceive great amounts of narcissism and aggression, of outspoken tendency toward sublimation and repression, but still more so, toward the idealization and rationalization. Due to the weak personality of the father and to the overwhelming influence of his mother's tenderness, there resulted a difficulty in establishing

an identification with the father, and consequently in achieving full virility. At the same time and for the same reason, there was a strong fixation to the mother. Her early death intensified this fixation as well as the unsatisfied craving for love. Perhaps he felt the loss he suffered so early in life as a very great wrong done to him, which in a child's mind might become associated with some persons from the immediate environment, who seemed hostile and sinister.

The next trauma had a perhaps still more destructive influence on his personality. He not only lost his father, but the respect for his father as well, and he became an object of pity and slight for his environment. His identification with his father, as a basis for his development toward virility, became still more impeded. At the same time, by way of reaction, his hurt pride made him build up an ego-ideal of perfect masculinity and virtue. Masculinity had to be so sublimated and made absolute as a compensation for the father's weakness and shiftlessness, virtue had to be rewarded with fame as a compensation for the father's shortcomings and for the ill repute devolving upon the family in general and upon himself as its oldest member.

At the same time his wounded ambition, as well as the real or imaginary humiliations due to a precarious social and financial situation, set free strong impulses of hatred against the wrong-doers, the unjust, the mighty of this world. Strong faculty for sublimation, blazing ambition and the spirit of the epoch combined in merging these tendencies with social and political ideas of the time. Rousseau became the master of the wronged and offended, Robespierre, the future apostle and leader of the Revolution. The philosopher took the place of the father as the spiritual guide of whom adolescent son was in so great a need.

Strong repressions and inhibitions prevented him from contacts with women. We can guess the character of these repressions and inhibitions; the fixation to the mother, reactive opposition against identification with the father, in other words—against masculinity, a feeling of weakness and humiliation which could not be overcome, finally, aggressiveness which was being restrained and the pressure of which was growing increasingly stronger, arousing fear on the ego. These inhibitions were never broken and the aggressiveness found no outlet in the channel of sexuality. However, the fixation to the mother found the continuation and a substitute in the attachment to the maternal figure of Madame Duplay.

This short outline compels us to assume that there was in Incorruptible a strong amount of latent homosexuality. This would account for his strange behavior toward men (as described above) and his inhibitions in relationship to women. According to psychoanalytic experience and theory his paranoia would be a defense of his ego against the impact of suppressed homoerotic libido. Due to the intimate fusion of the latter with suppressed, strong sadistic drives, the aggression would manifest itself in creating a violent hatred and desire for destruction of the alleged enemies. We may then say that they were nothing else but objects of his unconscious homoerotic fixation. The case Danton would be the best confirmation of this interpretation.

The revolutionary struggle afforded Robespierre the outlet for his aggressiveness and furnished food for his narcissism. His importance was growing and he was worshipped as well as feared. At the same time he could fight against everything he hated, everything which seemed to him the embodiment of evil and of wrong-inflicting reality. He took revenge on those whom in his youth he accused of having caused his misfortune. However, he was the victim of opprobrium which struck him because of his father and because of prejudices for which he was not to blame. So now he tried to show that he deserved both glory and good reputation, that he was better than the rest, that it was he who now decided on what was right and honorable. His hatred, not neutralized by any truly human love, was directed against all those, who is his eyes represented the former wrong-doers and also most likely against all those who by their dubious conduct and apparent lack of moral principles reminded him of his father, the chief cause of all his misfortunes. We may assume that Robespierre developed a tendency toward inflexible severity and rigidity of moral principles as a reaction against his father's instability and shiftlessness.

His super-ego had shaped itself to a great extent in contrast to his father's personality. Full as it was of boundless narcissism, his super-ego was extremely aggressive and quite ruthlessly turned against his fellow-citizens. Robespierre's strong sadism of fanatic morality indicates strongly repressed aggressive drives, which were seeking an outlet that would meet with the approval of his super-ego. His feeling of inadequate masculinity found its compensation in the display of his overwhelming political power and in the vigorous prosecution of all alleged deviations from the ideal of severe morality. The methodical habit of recording the shortcomings and wrongdoings of other people

was meant to justify the future executions and to a certain extent expressed a jealous vigilance lest anyone should indulge in more gratification than himself.

His inferiority complex and his never-satisfied narcissism were finding their compensation, however, in his ever-growing sense of greatness and in the possession of absolute truth. At the same time the exacting super-ego was demanding co-ordination with highly ethical norms. His certainty of having satisfied those demands allowed him to justify the crimes of the Terror. The craving for greatness brought Robespierre close to megalomanic delusions, while the wish to secure for himself the supreme sanction found its expression in the proclamation of the Supreme Being and in assuming, for the time being, the part of its high priest. Thus the revolutionary and iconoclastic himself erected a temple founded a cult and even enthroned a deity. This was no doubt his most potent attempt at justifying his own aggressiveness through elevating his own person.

The schizoid structure of his personality made possible the absolutism of his tendencies, the inflexibility of his ideas, as well as his ambivalence and acting in gross contradiction to the principles he himself was proclaiming.

The force of repressions which Robespierre brought to bear on himself produced outspoken reactive formations. His ability to feel vivid and even exaggerated pity was undoubtedly a reaction of the ego to repressed aggressiveness, which while sublimated into a revolutionary struggle and a despotism of thought, broke out—though rationalized and idealized,—in the form of the cruelty and ruthlessness of the Terror. It is through the latter that Robespierre's aggressive super-ego protested against the unattainability of happiness such as enjoyed by plain, normal people—and at the same time tried to annihilate any and all reality which opposed the complete unification and identification with his fantastic ideals.

The harmony and cooperation between Robespierre and the French people during that momentous period of history, also permits of being expressed in psychoanalytical catagories. In our opinion, such procedure will give us a better understanding of the enigma of both the people and its champion produced in the one as well as in the other, a craving for justice and in both of them accumulated a great volume of repressed aggression clamoring for a discharge.

Robespierre made a principal issue of the feeling of wrongs he suffered and raised the struggle for justice to the level of the highest ideal. While helping the people to destroy the old institutions which were the real sources of the most recent layers of the collective super-ego he, at the same time, did everything in his power to bring about a new order of things that would possess the highest moral sanction. In so doing, he secured a great amount of gratification not only for his own but also for the collective super-ego, he gave it compensation for the feeling of guilt resulting from the abolition of the foundations of social life that have been hallowed by tradition, from the execution of the King and from many other offenses.

While setting up before the people's eyes the highest ideals which he raised to the level of not only a national but universal character, Robespierre elevated his own as well as the national feeling of greatness. He saw in himself and in the entire nation, a crusader of virtue, thus greatly gratifying the collective narcissism. The feeling of his own greatness originated as a result of inter-action between the leader and the people. The unfilled wishes of the people, their resentments and the wrongs they had suffered, struck Robespierre with the full impact of their dynamics. In the feeling of his own greatness and of the greatness towards which he was leading France, the thwarted desires of the entire nation, sublimated as they had been to the highest degree, found their expression. To the people he gave ideals, whereas the people in return enabled him to share not only in true greatness but also in a growing megalomania. While worshipping and obeying him, they have been feeding his narcissistic ego which was growing ever more hungry for worship and obedience.

There existed, however, still another kind of interaction between the Incorruptible and the people. They have been united by a common hatred. The primitive hatred of the people found its sublimated expression in the hatred which was burning in Robespierre's ardent soul. It was he who secured for that hatred the highest sanction by putting it under the protective patronage of the Supreme Being. In turn, the people furnished Robespierre with new fuel. Hating, as they did, with the hatred of those who were hurt and who fought for their rights, their aggression communicated itself to their leader in whose soul it encountered a powerful charge of individual hatred and repressed sadism.

Accordingly, Robespierre was unquestionably right when, in the last speech before his death, he disclaimed exclusive responsibility for the Terror. Certainly he shared it with the people. Common was their struggle, common their ideal and common their folly.

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PSYCHOSOMATIC FACTORS IN HEARING

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Introduction

A sensory function is essentially a psychosomatic entity. Whenever we test the performance of a sensory organ, into this test goes the physical state of the organ as well as the receptivity and the conscious response of the person who is tested. Hearing is a sense which has utmost importance for our relations with the outside world. It is a sense of warning and informs us about what is going on around us, even when we cannot orient ourselves otherwise, as e. g. by night. In everything we hear, the factor of meaning is extremely important and as soon as the relation between stimulus and meaning is disturbed, a severe difficulty for the personality arises. Acoustic disorders become a disturbance for the person as soon as understanding is impaired and not any earlier. Very often patients will complain about a beginning acoustic disorder, when they have actually reached a fairly advanced stage of it; but as long as their communication with the world was not severly impaired, they did not notice it. On the other hand, people whose profession or whose attention is habitually concentrated upon hearing, notice such disorders often at an early stage. Thus we see that the personal factor enters always into the individual evaluation of an acoustic defect.

Method

The routine test taken nowadays on the hard of hearing is audiography. In this test we use pure tones which are meaningless stimulations, and ask the patient to tell when he begins to hear them. It is a test of minimum perception, as indicated by the patient himself. We wish to emphasize here that the person who is tested does not know ~~of~~ what intensity he perceives the minimum stimulation; he, therefore, cannot consciously influence the result. Audiograms show a certain constancy, but by no means an absolute one. They vary widely in the same person under circumstances as nearly constant

as possible. Why is this the case? What factors enter into the changes in perception? Some of these factors we have been able to investigate and put under observation; others are still unknown to us.

Psychological Factors

Obviously, the state of mind of a person who is being tested must have some influence on his perceptive acuity. Actually we have found that an audiogram taken after the patient has been instructed to indicate only which is the softest sound he can hear, differs from an audiogram of the same person taken immediately afterwards under unchanged external conditions, if we tell the same subject to think of a definite situation or of a definite subject. The examples we will demonstrate here have been recorded under the following conditions:

(1) A patient with a severe hearing impairment of about 50% in the speech range, who had been tested many times and whose audiograms showed only slight variations from one time to another was tested without any special information. Immediately afterwards he was told to think as intensely as possible of something pleasant. He answered that this was easy as his son was coming back from the war that very week. While he kept this thought in mind, the test was repeated and showed a steady increase of 5 db. for all sounds of the middle range. After this audiogram was completed, he was asked to think of something unpleasant, for instance of the fear he had as long as his son was in battle. The audiogram taken under this suggestion shows a drop of 5 db, below the level of the first audiogram and is again parallel to the first audiogram in the middle octaves. The difference between the audiogram taken under pleasant suggestions and the other taken under unpleasant suggestion is 10 db. for the 3 middle octaves, a result which can no longer be considered as mere chance. (Fig. 1.)

(2) Another patient, a woman aged 68, who also was tested frequently, so that her audiograms had been controlled for a period of time, responded in the following way: After having taken the routine audiogram, she was asked if she had a great wish; she answered that she had inherited some money and hoped to get into its possession. The audiogram taken under this suggestion showed a rise of 10 db. throughout the lower octaves, dropped for the two following higher octaves and was unchanged for the highest tones. An unpleasant suggestion (she complained about being lonesome) gave an entirely cor-

responding audiogram to the second one, which was between 5 to 15 db., lower than the second audiogram all the way through. Here the suggestion given to the patient changed not only the intensity of the response but also the form of the audiogram. (Fig. 2,)

(3) An analagous result, an entirely raised audiogram under a pleasant idea was observed on a third patient, also having been observed for a long time. (Fig. 3.)

Audiograms on myself in states of intense concentration on a special topic, such as "extreme pleasure" or "misery", showed a complete change in the form of the audiogram. Each, however, appeared partly raised above the normal threshold, inasmuch as the high tones showed a definite hyperacousia and the lower tones were depressed below the neutral audiogram. (Fig. 4.) The state of concentration in which I was tested was achieved through training in accordance with Dr. Robicsek's method of "realization" which, presumably, influences the organism as a whole. The state of realization is characterized by definite bodily resonance.

(4) It is not necessary to give suggestions of a highly emotional nature in order to find changes in the audiogram. The following audiogram, taken on a 69 year old patient of the clinic, shows the influence of concentrating on the idea of color only. The subject, an old Italian, was told to think of the color "black" and then to think of the color "red". For these experiments he closed his eyes. Both color ideas showed an influence upon the audiograms which was especially marked in the low middle range. The audiogram for every color suggestion looked different than the neutral audiogram, and the two audiograms differed also from each other. (Fig. 5.)

As the subject is unaware of the absolute intensity at which he answers that he hears a sound at its minimum audible intensity, he does not know that he hears differently every time. However, these illustrations of a changing threshold perception are only crude illustrations of the known fact that under different conditions we hear sounds differently. Hearing actually is not an independent function; it is interdepedent with all the processes going on in the organism. This is not only true for the acoustic function but is just as obvious for any other body function and, especially, for any sensory function. Perceptions do not occur in a vacuum but in a person, and we cannot isolate one function from the other, though we usually say that we test one of them which we think of as being isolated from the others. There-

fore, we may say that hearing is conditioned by whatever happens to us. We know very well that in a state of fear or expectation, we may hear things that otherwise remain below the threshold of our perception. It is very well to say that we direct our attention to the stimulus; but one of the factors involved in this process is that the threshold of perception for some stimuli is definitely lowered. On the other hand, since these changes in our perception occur constantly, they often do not come to our consciousness. Whatever we perceive and assimilate, represents always a synaesthesia. There is a reciprocal relation of the "gestalt" of the individual sensory perception and the "background" of the more amorphous state of the total personality. This general state of the personality by which we know as our general vital sensations, is not very easy to put into words; into it enter at the same time those hardly articulate sensations coming from the inside of our body as well as sensations emanating in their whole complexity from the depth of our mind. These interrelations are infinitely intricate. We cannot uncoil them as they are as complicated as life itself, but we shall attempt to point out some of the factors involved.

Significance of Terms of Hearing

Let us consider the contents of the words which describe the acoustic function only in the few languages I am familiar with. The English language has several words to describe the reaction to sound: "to hear" means to be a more or less passive receptor of sound, open to all sounds we are exposed to; "to listen" means to select from the complexity and to extend conscious attention to only part of all the things we hear. It describes an active state, an acoustic direction towards an object. The ancient word "hark" is even more intense in describing the same state. The Italian language uses other words to describe the perception of sound. They say "udire", which corresponds to the English "hear", i. e. perceive by the ear whatever goes on around, but they also have the word "sentire" which at the same time means "to feel". Thus they describe the original physiological connection between hearing and feeling; the human organism has still another possibility of tone perception, namely, by the tactile and the vibratory senses. Then they also have the equivalent to the English "listen" in the word "ascoltare" which means to listen attentively. The French language uses the word "entendre", which means to hear everything but also to understand it; in this word is contained root "tend", which means "tension"—the same as in English "attention" This hints

at the physiological connection between hearing and tonus, at the local combination of the two organs of hearing and tonus regulation in the labyrinth. This connection is a very intimate one; for sound produces all the time in the living organism tonic changes and tonic reflexes which, to a wide extent, shape the actual muscular form and have a direct importance for the formation of speech. The French word "ecouter" corresponds to the English "listen" and Italian "ascoltare", while the word "ouir" is identical with the Italian "udire". In German, "hören" corresponds to English "hear", "horchen" to "listen", but it is interesting to note that the word "horchen" for "hear" is intimately connected with the word "gehorchen", which means to "obey", and thus the German language in the relation between "horchen" and "gehorchen" describes the influence on our actions by the things we hear; it describes how we are psychologically and physiologically conditioned by the things we listen to. We can discover from the words, if we go deeply enough into them the important role the sense of hearing plays in our physical and psychological life.

The following experiments which I shall summarize briefly here give some explanations for these facts. We have seen that psychological factors influence in a measurable way the acoustic behavior, but we can also follow to a certain extent the simple factors creating these changes.

Influence of Vestibular Stimulation

Let us first consider the influence of such stimulations as are usually considered direct stimulations of the labyrinth, on the acoustic perception. That sound produces certain tonic reflexes in the body—reflexes which are dependent on the nature of the sound as well as on the state of the labyrinth, has been put into evidence clearly by Tullio. Therefore, it seemed probable that non-acoustic stimulations of the labyrinth would also influence acoustic perceptions.

As there is a definite relation between sound perception and the vestibular apparatus, it is probable that changes in the position of the head also have some influence on acoustic perception in quality, i.e. pitch, as well as quantity, i.e. the threshold of perception. A frequent observation seems to illustrate this assumption. Many persons when listening intently bend their heads to the left or right shoulder. Many persons have a habit of bending the head to one side. Metaphoric expression speaks of an "inclined ear", if a person listens favorably.

Artists also use to portray the attitude of attentive listening as a person whose head is inclined slightly towards one shoulder and forward.

While as yet we have no information as to whether or not subjects with normal hearing show any changes in perception of pitch when they change the position of the head, we were able to observe this phenomenon in a pathological case. (3) An otosclerotic patient affected with displacusis disharmonica for several tones showed changes in the perception of pitch if he changed the position of his head. The differences in the perception of pitch of consecutive tones of identical pitch if he changed the position of his head reached some time a fourth. The patient who had good musical training sang the tones as he heard them. He was not aware of his changed perception of identical tones, but believed that different tones were presented to him.

With the audiometer we tested the changes in threshold vibration, which means the quantitative changes in hearing, occurring in normal and pathological subjects when the position of the head was changed. Normal (Fig. 5) as well as pathological cases showed variations in threshold perception which widely exceeded the average variations found in audiometric testing. When the head was bent forward, backward, left or right unto the shoulder, the audiogram showed variations of perception which reached 15 db. On the author the greatest threshold variations occurred in the lower pitches, while the higher pitches changed much less. In bone conduction, the variations were even larger than in air conduction. On another normal subject, the threshold variations reached even 30 db. for the same tones in different positions of the head. (Fig. 6.) Again the variations were larger for the low pitches than for the higher ones, but bone conduction measurements in this subject showed far less variation.

In hard-of-hearing subjects, audiograms taken while they were sitting erect or lying on the right or left side showed such differences that they did not seem to belong to the same person. (Fig. 8 and 9.) Which of these audiograms was then the "real" one? Obviously, a hard-of-hearing person lying on the right or on the left side or on his back has always a different state of hearing (Fig. 10). This manifests itself in his better or worse understanding of speech, but as he does not know what he misses, his own description of this state is usually very poor. The person with normal hearing is accustomed to these constant slight changes (Fig. 11) which probably contribute to the

richness and completeness of our perception and integrate us better into the always changing conditions which surround us. It needs the entirely unbiological experimental exactness of the audiometric test to put these facts into evidence. One obvious practical result is the knowledge that in order to obtain somehow comparable audiograms, the subject's head must always be held in the same position, as otherwise the vestibular influences alone might account for different results at the next reading.

Another vestibular stimulation is *passive rotation;* actually an audiogram taken immediately after passive rotation while the patient has the subjective sensation of inverse rotation shows definite changes in the audiogram of the subject. (Fig. 12).

It would be interesting to observe changes of hearing in a state of seasicknesses if the subject were at all able in this condition to give any reliable answers.

Vestibular stimulations induce not only acoustic reflexes of the body musculature but also postural reflexes of the eyes (5) which are definitely related to the vestibular apparatus, as they change in relation to lesions which affect it. As these reflexes change in connection with lesions of the vestibular apparatus, the reciprocal phenomenon is an influence on the threshold perception by *movements of the eyeballs.* These variations also reach up to 10 db.and again the lower tones are more affected than the higher ones. The effects are even obvious if the eyes are closed and show a definite relation of the mere motor reaction to acoustic perception. Again we meet here with a synaesthetic or synergistic function, which in this complex belongs to the basic vital factors of the organism. *Sound influences the tonus of the organism and its movements; but on the other hand, the tonic state of the organs and certain of its motor reactions, and even its position, influence acoustic perception.* We find here an interrelation which cannot be dissolved. Obviously, the stimulus puts the organism into a higher or lower state of receptivity for just this kind of a stimulus.

Influence of Visual Perception

There is also a measurable influence of visual perception on sound perception. Fifty years ago, *Urbanchisch* (6) described the influence of colors and lights on acoustic ideation and on acoustic memory; actually colored spectacles put before the subject's eyes change

his threshold of sound perception in a measurable way (Fig. 12). The influence of color on the increase or decrease of perception is individually different. The influence is especially pronounced in the perception of high tones (Fig. 14). Whether the eyes are open or closed also influences the audiogram, but that does not mean that closed eyes produce better hearing. In some subjects the opposite is true, and the closing of the eyes decreases slightly the threshold of hearing. But as we have seen at the beginning, even the mere suggestion of a color will produce a definite change in the form of the audiogram. A brightly lit room or cozy darkness will physically affect our state of acoustic reception, facts which are obviously well known to interior decorators, theatrical experts, etc.

The phenomenon of "audition coloree" probably goes back to this relation of the "sensorium commune" in which all the sensations melt into an organic complex.

The changes in the audiogram, viz. changes in the quality of hearing under the influence of light, color, joy or sorrow, tension or relaxation, have found their expression in speech and they are related to those phenomena which Robicsek calls the "physiology of symbolic functions" (7). If a pleasant thought or red light can change our hearing in such a way that the high tones become more intense while the low tones become less intense, then we may assure that we are really high-tuned (German hochgestimmt"). Also, the expression "to be in harmony with someone" obviously has a relation to the fact that two people who found themselves in similar inner situations may also have a corresponding state of hearing. On the other hand, the unifying quality of music for a great assembly probably also has something to do with the psychosomatic "tuning in" of the individual in to the general pattern by acoustic means.

Influence of Respiratory Factors

The state of circulation and respiration is also affected by sound (9). Acoustic reflexes may be put in evidence in both systems. (1) Increase in the breathing frequency or induced apnea may be caused by sudden sound stimulation. Changes in blood pressure and in the rhythm of the heart also have been observed under acoustic influence (13). Here we meet again with a reciprocal prenomenon.

While giving acoustic training to some hard-of-hearing subjects I notice that *breathing exercises* which I used in order to improve their

voices, *had a beneficial influence on their hearing capacity*. I therefore tested them before and after the breathing exercises and found that there is a definite influence of respiration on the acoustic perception. (Fig. 15, a & b). Deep inspiration with protracted exhalation in some subjects produces an increase in hearing, which is especially notable in bone conduction. (Fig. 16, a & b). The influence is more pronounced in the perception of high tones than in that of low tones and may even produce an extension of the range (Fig. 17) by an octave or more. It is possible to repeat these breathing exercises at regular intervals several times a day and a change in breathing with special emphasis on intense exhalation often produces a noticeable gain in hearing. Up to now we have not had sufficient experience to ascertain how long the effect is maintained, but we may say that since protracted breathing exercises may change the type of breathing of a person permanently, a permanent effect may be hoped for. This effect is present also in normally hearing subjects (Fig 18).

In deaf-mutes who learn speech by way of touch and sight, respiration is often disorganized and may even influence the hearing in an adverse manner. One of the subjects who showed an especially favorable influence of breathing exercises was a deaf-mute girl whose breathing was seriously impaired. Even in singers who should be expected to have perfect command of their breathing mechanism, hearing improvements can be reached directly by breathing exercises. The three singers which I observed were all persons above 50 years of age; two of them were teaching and one had stopped singing, so that they did not use their voices professionally anymore. The favorable effect was brought about by exercises in which they discharged a far greater amount of air than usual and in which they began to use again abdominal breathing to a higher extent. All three were affected with organic hearing disorders but they also showed a tendency to predominantly upper costal breathing and to ~~hearing~~ hoarding of air. Decrease of intralabyinthine pressure through decrease of the intrathoracic pressure seems to have had favorable effect on their perception of sounds.

Attempts were made to increase acoustic perception by chemical means as well. An example of such a therapy is the treatment with a compound of vitamins and amino-acids devised by Max Jacobson (9). We tested this preparation at the Hard of Hearing Clinic of the Polyclinic Hospital and in many cases we found a marked improvement in the patient's hearing capacities. Here I wish to report only the fact that often this increase follows as soon as within 15-20 minute after the

injection of the substance Fig. 19). Many cases showed very important and persistent gains in threshold perception, 20 db and more, within a few weeks.

It is important to note that the increase was more pronounced in the high pitch range. An audiogram of this kind recording the immediate influence of the injection resembles very nearly the improvements obtained by breathing exercises, where also the high pitch tones are more improved than the others, and we saw similar effects of the high tone improvement in suggestive experiments where a person was given the task to concentrate on a pleasant thought. As such improvements often appeared immediately, it is hard to imagine that any organic changes in the acoustic organs had taken place. We assume, therefore, that the whole situation of the organism had been changed in the direction of a greater receptivity. This is not only true in hard-of-hearing patients, but subjects with normal hearing also show immediate effects of these injections which manifest themselves as hyperacousia over the whole tone range, especially in the high octaves.

While audiograms taken before and after injections often show such obvious increases, the patients themselves do not always acknowledge them. One patient, a physician in his middle forties, was practically brought to normal from a hearing loss of more than 30 per cent in both ears, but this man, who was a trained observer, said that though he found he needed less amplification in his amplifying stethoscope, he did not hear any better. Asked how he meant this, he said that he still could not understand people properly. Another patient, a woman about fifty years of age, whose right ear was corrected to normalcy from an important loss, while the left ear had remained unchanged and unusuable for practical purposes, reported that she did not find any gain at all. Other subjects, however, who gained 10 to 15 db. in some octaves or who just gained the perception of the high tones which had been previously defective, were highly satisfied and reported that the understanding of speech was greatly improved. Similar observations can be made on persons who test hearing aids, some of them understand much better as soon as the intensity is increased, while others are not able to interpret those changed acoustic stimulations. Obviously, there is a personal factor involved in the use which everyone makes of his hearing perception.

Conditions of Understanding Speech

As far as speech is concerned, every speech sound is a sound complex, which we recognize by certain characteristic overtones, the so-

called formats. Most of these, especially the formats of the consonants, belong to the high octaves. There is a definite relation between the intensities of the fundamental tone and the formats of a speech sound. In most hearing disorders, the perceptions do not decrease uniformally in the whole acoustic range, some but parts of them are more depressed than others. This is one reason why speech becomes harder to understand as these relations between the component sounds are no longer the same as before, and therefore, the sounds are slightly changed. But even the hearing losses are not constant, as they change to a certain extent from day to day. With regard to the form of the audiogram, this means that its curve is not only lower or higher, but shows also changes in its form. For the understanding of speech, this is a new complication; because the distortions of sounds fluctuate —then it is harder for the subject to recognize the sounds and to identify them as the speech phenomena he was used to hearing before his hearing deteriorated.

Noises and sounds of biological importance are so easily within the range of intensity for a normal person that discrimination within this easy range is a matter of experience and memory. If, however, hearing is impaired at a later period of life, the subject is no longer able for the reasons mentioned above, to discriminate as well as before, even within the range of hearing still present. The person's present experiences do not any longer correspond to his acoustic memory of former times; finding it increasingly difficult to understand what they still hear it, any of these individuals retract their attention from hearing and decrease the amount of voluntary attention which they formerly used in listening. Such behavior tends to increase further their hearing impairment. Such persons actually stop using the hearing they have still left.

Individuals who were born with a severe hearing impairment have never had the opportunity to develop normal acoustic experiences and memories. They actually do not know how much they can hear and do not use all the acoustic capacity they have. Even the sounds and noises which they can perceive bear no meaning for them, and therefore, are not integrated into the personal lives of these subjects, who often behave as if they were completely deaf or like deaf-mutes.

Testing By Means of Acoustic Reflexes

The potential hearing capacity may be put in evidence by the registration of reflex movements in cases where a subject cannot be

tested satisfactorily with the audiometer. This may be the case with small children or with severely deaf persons who never used their hearing and have grown up as "deaf-mutes". This potential hearing capacity and the actual use of hearing, as evaluated by the subject himself and revealed in tests of speech understanding, may differ substantially. This marginal area of hearing may be brought to the patient's consciousness and may become usable by acoustic training (10, 11 and 12). These training methods instruct the subject in the meaning of such acoustic perceptions as he actually has and teaches him to understand and interpret all he can hear. The progress manifests as an increase in understanding of speech and in the registration and interpretation of noises.

Obviously, the personal structure of a subject is a decisive factor in the different types of acoustic behavior. His willingness or unwillingness to accept contacts with the world enters into his acoustic function. Aside from the emotional complications, the question of the imaginal type is important. A person who is an acoustic type, which means that he gets his most vivid impressions and memories in the acoustic sphere, might be more disturbed by slight changes in the acoustic patterns than another person who is prevalently a visual or motor-kinaesthetic type. A child with a congenial hearing impairment, belonging to the acoustic type, might be sufficiently disturbed by it not to acquire speech spontaneously, while another child with the same percentual loss, but less fixed to the acoustic sphere, might still be able to acquire speech.

Acoustic Training

During acoustic training it is interesting to observe the attitude of the subject towards his increasing share in the acoustic world. Many severely deaf persons who have never listened before, are deeply shocked by sound and complain that they don't want to hear, that it disturbs them. Especially when amplifying devices are used and sounds of uncommon intensity act upon the person, acoustic motor reflexes may be produced in the subject, which upset him and disturb him. On the other hand, it is also interesting to note in intelligent subjects how they build up their acoustic world. A very clever 27 year old girl who had been brought up as a deaf-mute, and who learned to hear first with a hearing device and later without it, complained one day that she did not know where the sounds came from. After having been shown with visual control of the sound source whether

the sound came from the back, from the left, right, etc., she tried it for herself and from that day on located sounds fairly well. Since she acquired this capacity so quickly, she probably had it before, and the demonstration brought it finally to her conscious awareness so that she could integrate it in her new acoustic complex.

Psychogenic and hysterical disorders may also produce inhibitory mechanism which will cut off the person's consciousness from his own acoustic perception. The patients may behave as if they were deaf or severely hard of hearing, but the reflex mechanism in such cases functions well and the recordings of these reflexes show clearly motor responses to sounds, though the subject may not have been aware of having heard anything.

Recording of Reactive Movements

The technic elaborated by Otto Lowenstein (13) offers us a means of detecting the actual hearing capacity of a subject independent of his voluntary cooperation. It even gives an indication as to whether or not our communication was understood. The technic consists in the simultaneous registration of the tonic variations occurring in the muscles of the head, the hand and the feet, as well as of the state of the circulatory and respiratory systems. The form of the recording enables us to study reactions which are unconsciously produced by the subject and are invisible to the observing eye. Suggestion of pleasure, fear, expectation, etc. produce specific forms of the graph which show that the subject has understood the orders of the tester. Stimuli without special significance, which affect the subject only as sensory phenomena, also show on the graph. Where understanding plays a role, the recorded graphs represent expressive movements, similar to mimic movements. Audiometric and speech tests used on the same subject determine how much of the hearing recorded before is actually used by the subject. how much he understands and how he rates his own hearing.

Summary

The observations which are presented here show that the response of the person to the sound world is a complex phenomenon. It consists not only of a passive reception, but also of an active acceptance and integration. Hearing, to a wide extent, is an act; deafness, to some extent, consists in an active increase of the hearing difficulty by

a person affected with a hearing disorder. This offers a possibility for a therapeutic approach beyond the purely medical approach, inasmuch as the integration of the hearing experience can be increased by a voluntary acceptance of sound and by a greater amount of attention, directed to the source of sound. We teach the patient again the meaning of the changed symbols, so that his understanding of these symbols may be restored. But often it is sufficient to prove to him in a short demonstration that he is able to understand what he hears and in this way induce him to change his morbid attitude actively and directly. An example is a young woman who came to see me wearing a hearing aid, who said that she had great difficulty in understanding the words when she was spoken to, even in a small room. A short demonstration proved to her that she was able to repeat numbers without a hearing aid at a distance of 20 feet. She was told to take off her hearing aid and to listen without it. In this case, the experiment was successful and she came back next day telling me that she had been able to carry on a conversation without the help of amplification. This person had been able by her own will and determination to direct her attention toward sound to such an extent that it became meaningful to her. On the other hand, there is a case of a teacher, who had formerly been a musician and with gradually increasing hearing impairment had to give up her musical career. She wore a hearing aid, very conspicuously with which she heard so well that I was at once convinced that she could also hear without it. I began with her acoustic training which very soon disclosed the presence of a usable amount of hearing even when no hearing aid was applied. As soon as this person acknowledged the very noticeable progress she made, she stopped the treatment, took up her hearing aid again and behaved as deaf as before. Apparently, her personal neurotic situation which had led to the sacrifice of her career demanded again that she should not give up the motivation of an incorrigible hearing defect.

Hearing is a sense of vital biological importance and to a great extent of warning sense, and therefore, even the strong inhibition of hysteric deafness, and also those acquired in childhood, often are broken down by means of repetitions extended over long period of time. Few persons can resist the impact in their bodies of the acoustic and motor-kinaesthetic reactions based on reflexes. It is the same mechanism that wakes us up from our sleep, when sounds produce motor reactions

in us which end the state of unconsciousness maintained during sleep and cause our awakening.

As we do not know at the beginning how great a part of a hearing impairment is played by psychic factors, i. e. how great is the marginal area over which hearing may be extended though the physical state of the organ remains unchanged, there is a good chance of increasing the understanding of speech and the hearing of sounds by expert psychotherapeutic means. Acoustic training is a reliable but slow method. We are working now on newer and more dynamic approaches, in order to change the physical and mental attitude of the patient and effectively, so that he may use all the hearing he has left as soon as possible.

DISCUSSION

Emil Froeschels, M. D. If one restricts the important area of hearing to the three middle octaves only, one does not take into account the importance of the "formats" for the understanding of speech. Discrimination of sounds depends upon the constant perception of overtones—a different one for each sound— which overtones must be present in sufficient intensity to make the sound identifiable. Lack of these formats, or of some of them may change the pattern of speech into an indistinct murmur. The range to which these formats belong is a high one, from the first to the fifth small octave; the highest formats belonging to the *S* sounds. If perception of the high tones is impaired, *S* will sound like *T*, and the latter like *F*, and some forms of sigmatism may finally sound like a *T*. (To the informed observer this may indicate the presence of a high-tone hearing impairment, which may be unknown to the subject himself.) The intensities of the formats must remain in a definite relation to the other overtones and to the fundamental tone; the latter must be the loudest one. In the audiogram the hearing does not only change in quantity but also in quality from day to day; namely, different tones change their intensities.

Referring to Dr. Jellinek's report on several reflexes, especially those of the eyeballs, I wish to stress the fact, that they do not show in the audiometer tests. Furthermore, audiometer tests are unreliable in young children up to about six years. I have seen hundreds of children who were "deaf" according to the audiometer test, but proved to be only hard-of-hearing when tested Urbantschitsch's whistles.

I have introduced the method of a socalled "direct tone introduction" for use in small children. The tones of the whistles are blown directly into the meatus via a rubber tube. As every normally hearing person can prove on himself, this kind of acoustic stimulation invariably brings forth a reflex, or a series of reflexes, namely the auro-palpebral reflex known as blinking, also reactions of shrinking, grimaces, etc.

You may be interested to hear that recently I and my assistant Mrs. Beebe have tested new born children at an age from one to eight days with whistles. The use of the direct introduction was not necessary as they reacted almost without exception with blinking and shrinking to whistle sounds coming from certain distances. (They did not react upon tuning forks, however.) Some of them, even on the first day of life, moved the eye balls alone or the eye balls and the head towards the sound source. Some writers believe that this searching for the sound source shows up much later.

Finally I wish to mention a few words about psychic deafness. The diagnosis is rather difficult. But in contrast to many, especially congenital, organic ailments of hearing, the psychic disturbances of hearing can be completely eliminated by psychotherapy.

Hans Robicsek, M. D. In the foregoing lecture Dr. Jellinek mentioned that good psychosomatic results were obtained by the application of my Realization Experience, or Realization Exercise. However, the evaluation and interpretation of these findings is impossible, unless we understand, at least in a general way the nature and significance of the experiment. So far, it has been mentioned only to show the changes of sensory perception in one trained subject. (Dr. Jellinek herself) and a few untrained ones. We have also heard that the exercise in question represents one of the ways of active psychotherapy which has been applied in order to achieve in the patient an optimum of hearing. I have been asked to give you a short account of the method in question.

About 25 years ago I had an opportuunity to observe a large group of cases of gastric ulcer. The true cause of this condition being unknown, I kept looking for some common denominator until I found, or thought I found, in all patients a general and persistent tenseness of a peculiar brand. Assuming that I had possibly come across an etiological agent, I decided to combat this tenseness with the aid of systematic relaxation exercises. The outcome was perplexing. Most of my patients recovered in a short time. Since then the relaxation therapy

in gastric ulcer and various other ailments has been suggested by many medical authorities and schools. There was one question, however, which remained to be answered. How can it be explained that a primitive procedure as the relaxation can accomplish such extraordinary curative effects? What kind of change or transformation in the patient is taking place during relaxation.

In the following I shall attempt to give an answer to these questions:

If somebody commands a person to relax and this person accepts the order, he grasps the meaning of the order first, and, second, undergoes the well-known total psychosomatic transformation which corresponds to the idea "RELAX." He loosens up. Here we have a very simple, but generally valid and illustrative, example of a "realization exercise." Within the center of the exercise we find a definite specific meaning, an "idea," in our case the meaning of the word "RELAX," I say "the meaning." I do not say "the word." For it is evident that whether this meaning is conveyed to us by symbols of the English, French, Chinese, or Arabic language; by spoken or by written symbols; by gestures, signs, or any other symbolic means; by ourselves to ourselves; or, from the outside, by another person, thing or circumstance; as long as the respective meaning has been implanted into our mind and is present there, it acts at once as a dynamic entity per se, it is comparable to a field of force. It acts there, as it were, pressing, and directing the totality of our body structures and their functions into its given pattern of response. Of a response which, in its last analysis, turns out to be a total muscular response in which the entirety of our muscular apparatus functions and acts as an effector and resonator. The "pattern of response," at least in our case, is easily recognized. Command "ATTENTION" and you know what happens. Command "RELAX" and watch the change that takes place.

These things, of course, are known to every one. However, what many do not know is that *every* meaning, as soon as we permit this meaning to be present in our mind, acts upon us in a thousand ways and represents accordingly a definite dynamic unit, that explodes as it were, against the screen of our body in a given way and forces our body into its corresponding pattern of response. Just as it is impossible (we are told) to exercise any resistance against the impact and effects of sound in its more primitive and cruder forms, so it is impossible to resist the impact and effects of *language* and *its meanings,*

as long as they are reaching us all. Everybody can prove this fact to himself, provided he accepts himself as his own laboratory, guinea pig and observer (all in one), and provided he has had a little training in this matter. Here is the formula:

Turn off the lights. Sit down. Close your eyes. Relax and loosen up until full relaxation has been established. This may take five to fifteen minutes. As soon as relaxation has been accomplished you feel, of course, at ease and poised. Seen from the outside you look now as if you were asleep, although of course, you are awake.

This second phase of the experiment called Neutralization, is where the proper exercise can begin. You choose some meaning, any meaning you wish to investigate, and you expose yourself to the idea which you selected with all scientific consciousness you can muster, that is, by excluding consistently any other thought. Let us assume, for instance, you choose the meaning of the word "UP." In concentrating upon the meaning of this word you will notice that everything will change in a specific way, the posture, the respiratory and circulatory type, and much more. Your whole body will oscillate towards a naturally given, invariable, and irresistible formation, the pattern of response, that corresponds exactly and is coordinated to the meaning of the word "UP." That meaning as a dynamic matrix starts forming and transforming you from top to toe until you fit completely into the design of its specific pattern. We may say: Realization is a process of being shaped and molded by the meaning of a word into that meaning's corresponding *somatic pattern of response.*

Realization is the third phase of the exercise. It leads up to the fourth and final stage in which the process of formation comes to a close. Herein the transformation into the corresponding respective pattern of response has been perfected. The exercise, accordingly, consists of four steps: The Relaxtion process leading up to the state of Neutralization, and the Realization process leading up to the state of Transformation. The whole procedure may be called the *Realization* or *Transformation Exercise.*

The changes in our body which are taking place during Realization are necessarily accompanied, of course, by a score of sensations which are in line with the psychosomatic changes. In our instance, for example, hundreds of tests are almost uniform in result. On realizing the meaning "UP" we get a feeling as if our body as a whole were elongated, thin and lean; as if the weight of our body were diminished;

as if we felt cool or chilly; as if some light were shining through the darkness; and so on. This set of As-If feelings is again specific and represents the other face of the medal, the psychic pattern of response which is coordinated to its somatic equivalent. If at this moment we shift to another meaning and express ourselves, say, to the meaning of the word "DOWN" we tangibly experience the collapse of our previous pattern and feel how it gives way to something new. Posture, respiratory type, and circulation change again in a specific way. So does the psychic pattern of response. There are sensations as if the body would expand and grow into a globelike structure; as if we dropped into darkness; as if the body was extremely heavy; and a sensation as if we felt warm or hot. All these sensations are stereotyped phenomena met with in almost every normal person. They form in all cases where the individual exposes himself to a distinctive meaning of a word, a correspondingly distinctive psycho-somatic set of events which, strange as it may seem, can be reported exclusively in terms of As-If feelings, or As-If sensations. Their study comprises a particular domain which parallels the study of the somatic pattern of response.

These two comparatively simple instances elucidate sufficiently, I hope, the issue in question. In realizing more complex meanings we find, of course, much richer and more complicated units of response. If we try a transformation exercise with the meaning "PEACE" for instance, against the background of the meaning "STRIFE;" or, say, the meaning "TRUTH" against the background of "HYPOCRISY," we will be fascinated by the findings. We will learn that what we call meaning idea, thought, or concept, is definitely everything but an intangible and airy something with which philosophers may toy. It is a solid physiological affair; a palpable psychosomatic quantity. Here is the platform where Psychosomatics as a separate science has its origin. In fact, considering that the majority of meanings are supplied by the words of our language, and in view of the fact that these meanings, in turn, create their corresponding patterns of response, it is not difficult to see that with the exploration of the meanings, their symbols, and their patterns of response, an independent scientific research field of great dimension may be thrown open: a science that may uncover and describe, record and register in detail all our psychosomatic structures of response and the very foundation of our subconscious existence. We know that every word unlocks a given specific meaning. You can't say elephant and mean a mouse. And so

we usually assume that every individual meaning presents an isolated entity. However, this is not the case. If we start analyzing the material which has been secured by descriptive pattern study, we presently are startled by another finding, namely, that all our meanings are interlocked and correlated in an amazing way.

By tracing their ramifications and following the pathways of their inter-relationship we soon find ourselves in front of a new Law of Nature which in its scope and import equals or surpasses other natural laws we know—the law of human consciousness. I call it the Supreme Law of Existence. This law controls the correlation of all our meanings and their symbols, just as gravity controls the stars. It shows that we are living within an unsuspected given framework of primordial representatives that govern us since the beginning of time. Its implications are of paramount importance for each one of us. The technique of these studies has been successfully established. It is called the Differential Analysis of Language and it is an instrument of many merits. By it the origin of language and religion has been traced. To discuss it in detail would lead us too far afield, however.

Pattern description plus pattern analysis present the basis for practical considerations the basis of a Transformation Therapy. Schilder[1] in his last work touched upon a few similar concepts, although, as far as I know, he never succeeded in penetrating into their common foundation. He said: "We have to conceive of nobility as the intersensory element common to all senses." He also speaks of sensory modalities translatable into one another and of "tonic responses." He conceives of the vestibular apparatus as the unifying factory among the senses and as a general organ of tone and nobility. All these ideas come very close to the basic principles of my own theory.

To be in tune with a specific meaning means settling down to its psychosomatic pattern of response. Therefore, the meanings which we favor or habitually harbor in our minds are bound to crystallize in our physical expression. In other words, the meanings which are persistently predominant in our minds have permanent somatoplastic effects. Here, if you wish, you may find a sensible approach to physiognomics. However, what counts much more is another matter. If one permits the meanings, say, of disgust, or hatred, or resent-

(1) Mind, Perception and Thought in their Constructive Aspects, Columbia University Press, N. Y., 1942.

ment, perpetually to be present in his mind, he necessarily develops corresponding somatic traits in his inside and outside manifestations. They differ from the set of reactions produced, for instance, by habitual kindliness. Fear looks quite different from love or confidence; and cheerfulness quite different from gloom, which is commonplace. The question which arises here is this: Since our body is continually exposed to the impact of the meanings that keep us occupied, it becomes evident that our body is but the sediment of our meanings, a shadow cast by whatever inhabits our mind persistently. Consequently, we may assume pathological conditions are nothing but the last result of permanent malignant patterns of response produced, in turn, by their not less malignant meanings. The therapy in such conditions, of which the gastric ulcer is but one example, can be successful only if we eliminate their real underlying cause, namely, the constant impact of pernicious meanings. This can be achieved by replacing the systems of destructive meanings by systems of constructive meanings. The human being is an instrument of universal resonance. Our therapy must eliminate the tunes that have been warping and spoiling the instrument and restitute its lost capacity to oscilliate again in harmony with the Supreme Law of Existence.

Let us summarize: Relaxation, Neutralization, Realization, and Transformation are the four steps used in the transformation exercises and therapy. Any meaning if present to our mind acts as a specific dynamic entity. It infiltrates and processes the body into its corresponding somatic pattern and response. The units of somatic repercussions released by habitually prevailing meanings settle and become permanent. Malignant meanings are in the long run pathogenic. They produce their corresponding malignant patterns of response. Their antidote is a systematic and planned implantation in their place of certain curative constructive sets of meanings, which is the program of transformation therapy.

Transformation therapy has been successfully applied in a great number of disorders of almost any kind. All it requires on the part of the patient is average understanding and average good will. It cannot be applied where normal communications with the patient fail completely, as in severe mental cases, and it can be applied only with difficulty where normal communications with the patient are impaired, as in cases of deafness or reduced hearing. At the present time this particular problem is under investigation at the Hard-of-Hearing Clinic of the Polyclinic Hospital in New York under the auspices of its

director, Colonel Dr. Samuel Kopetzky. We shall report on the experiments conducted there in due time.

Max Jacobson, M. D. I wish to say a few words about the remedy mentioned in Dr. Jellinek's paper. The remedy used was a mixture of a combination of amino acids and vitamin B-complex including choline.

I published a preliminary report on various disorders treated with the above medication. Several thousands of cases of nervous disorders, fatigue and organ neurosis were under observation. Some of the therapeutic objectives were: Rehabilitation of war veterans and the convalescence after infection and surgical intervention.

As a result of these investigations, it has been quite evident that some of the nervous disorders, such as organ neurosis, fatigue, premature aging and shock differ from each other only in the matter of degree.

As shock is the best studied condition in extensive animal experiments, we can draw important conclusions from disturbances of metabolism, of liver, kidney, and of the skeleton muscle.

In the treatment of hearing disorders with this new compound it makes no difference by what the original damage was caused; whether it was the result of infection, neurological changes or the like, or whether the damage involved blood vessels or bone cells. It may not even matter whether the primary damage was done to the central nervous system, as this medication will not only affect the disturbed organ but, at the same time, will benefit the disturbed organism as a whole.

The amino acids have enzyme functions and serve at the same time as tracers of the nerve tissues for the vitamins. If one considers that these amino acids protect normal liver metabolism, and contribute to the restoration of liver disturbances, this is in the true sense a psychosomatic approach in the treatment of hearing disorders.

Very interesting experiments have been carried out which confirm my theory of the inter-relationship between hearing disorders and shock. In these tests shock could be produced through rotation of rats in fast moving drums. It could also be shown that nutrition which is poor in protein could by itself cause a pre-shock condition, even without the trauma to the labyrinth inflicted by rotation. A re-

duced protein intake or the inability of the liver to split protein into amino acids represents essentially the same disturbance.

You remember that Dr. Jellinek mentioned the improvement of hearing disorders through breathing exercises. This can be well understood in taking into consideration the following facts: lack of oxygen is equivalent to shock, regardless of whether this lack is caused by poor circulation or by the reduced oxygen in the air. It is present in fatigue, pre-shock condition and shock itself and it impairs the normal function of all tissues.

In the past nine years many authors have published experimental work on the relationship between avitaminosis and hearing disorders.

A last word on the immediate action of the injected compound. The improvement is caused through the availability of necessary elements for normal functions of the nerve tissue itself. These products act in the sense of normalizing the liver metabolism and enabling it through that short breathing spell to resume normal functions. In short, the immediate results represent the benefit of the hearing organs through feeding necessary metabolic elements into the hearing organ itself. The final and lasting improvement represents the rehabilitation of the whole organism.

*Dr. Edith Klemperer*s Dr. Jellinek's very interesting lecture reminded me of a case I saw in Europe. The patient came to see me because he suffered from sudden attacks of dizziness and anxiety, and sometimes fainted. He was a mechanic in charge of repairs of trolley cars, and one of his duties was to climb their roofs to inspect and to repair them if necessary. Thus he often was in danger of falling down. The patient's condition was considered psychogenic and he was psychoanalyzed by a competent physician for three years without any relief. He reported that during the first World War he found himself twice in the neighborhood of a bomb explosion and was afterwards unconscious for many hours. I, therefore, sent him to a competent otologist for an opinion. The otologist told me that the patient had a definite ear lesion and that he did not think I would be able to do anything for him by psychotherapy. But this was not the case. The patient usually knew beforehand what kind of work he was to do next. When he thought he would have to climb a trolley car, he came to see me first and I hypnotized him. The effect was that he did not get his dizzy spells, or better, that he did not consciously reg-

ister them, which—in practice—meant the same to him. Besides, his tension and anxiety condition improved a great deal. I remember now that this patient also reported that his hearing had improved, a fact in which, at that time, I did not pay much attention. I believe, that this patient is a good illustration of Dr. Jellinek's interesting points.

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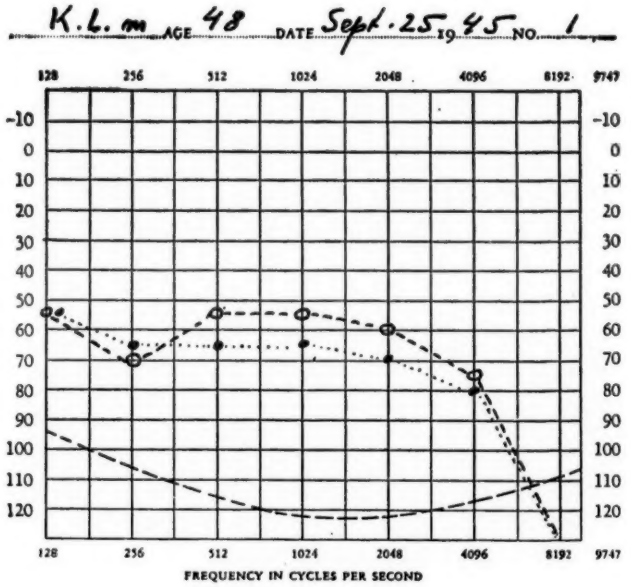
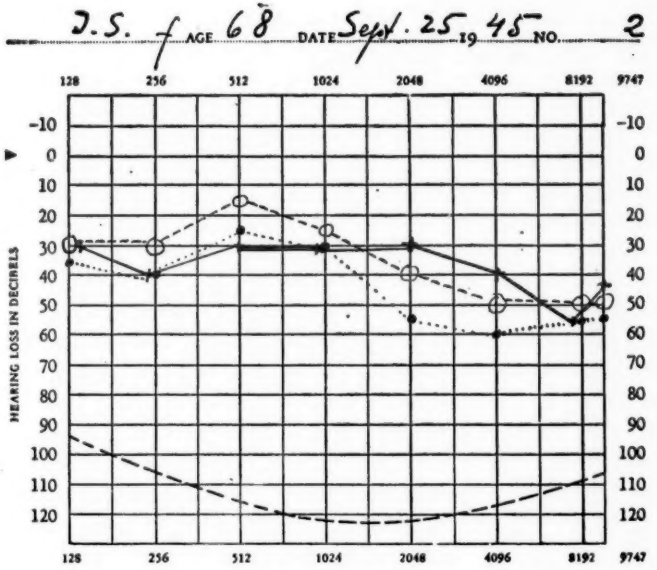


Air condition 1. ear.

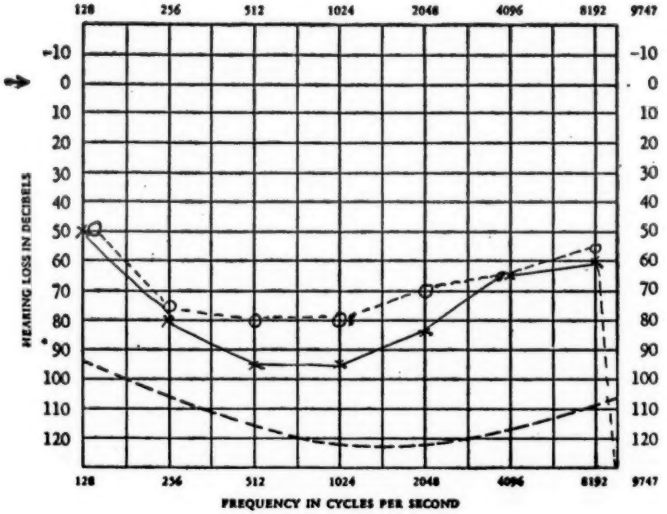
o–pleasant thought *"Son returns from war."*

●–unpleasant thought *"Fear while he was in danger."*



O–*"I inherited lots of money."*
●–*"I am unhappy because I am lonely."*
Air conduction, left ear.
+–neutral (no instruction).
O–pleasant) thought
●–unpleasant)

J. S. m AGE 32 DATE Oct. 18 19 45 NO. 3

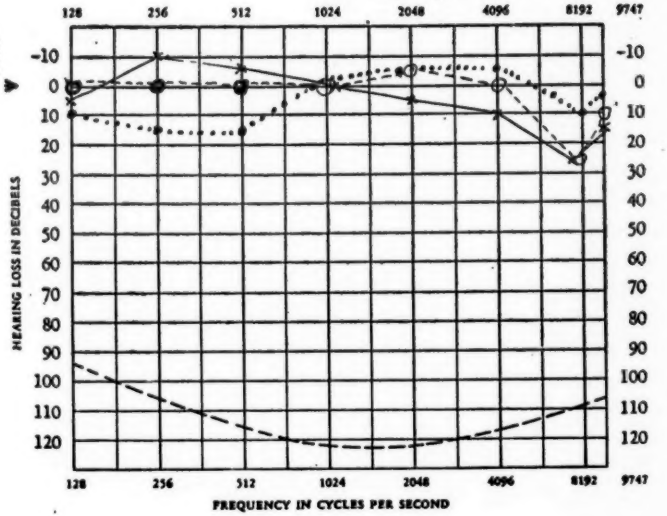


Air conduction left ear.

X–neutral.

O–pleasant thought, *"I shall hear well."*

A. J. AGE DATE Sept. 20 19 45 NO. 4
3 o'cl.

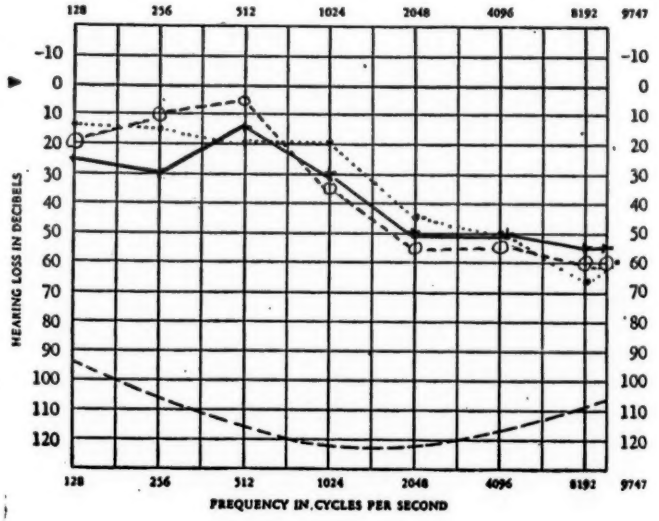


Right ear:

x–neutral.

O–pleasure)
) as states of realization.
●–misery.)

P.C. m. AGE 69 DATE Oct. 4. 1945 NO. 5

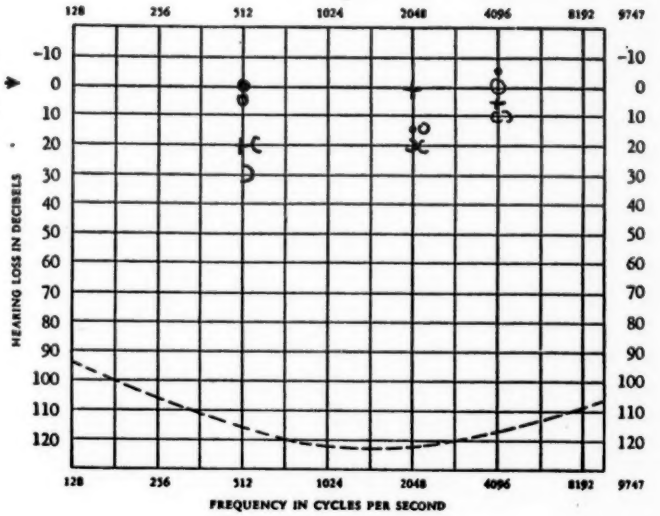


Air conduction left ear +–neutral

Color suggestions with closed eyes O–red

●–black

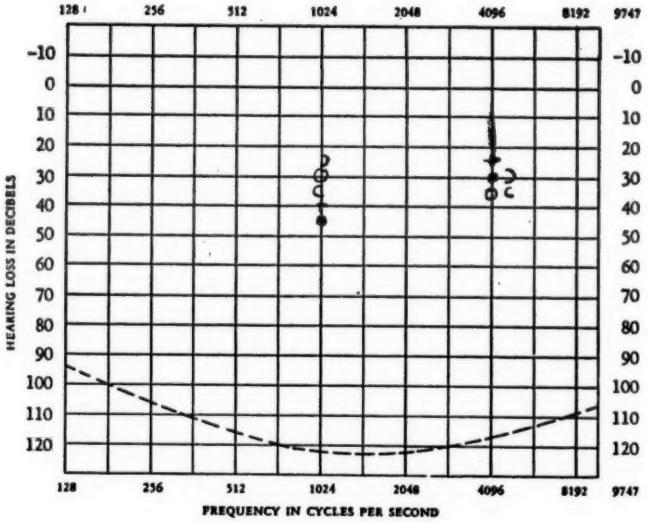
M.Q. m. AGE 21 DATE June 14 1940 NO. 6



Normal subject.

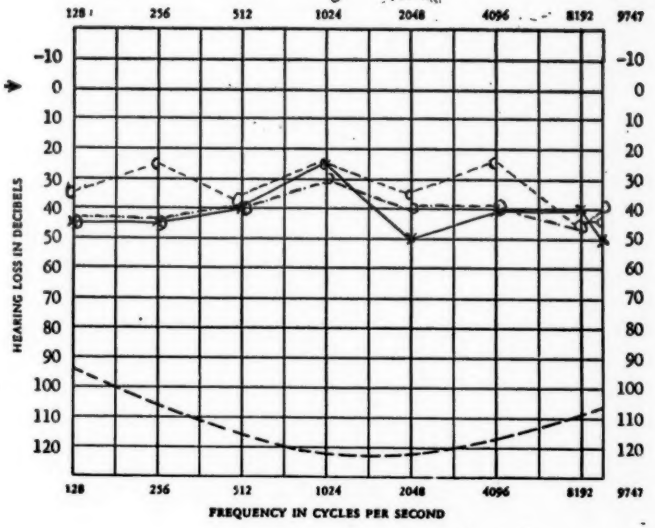
Air conduction right ear ●–erect
+–forward
O–back
(–right
)–left
) bending of head

G.B. f. AGE 19 DATE May 19 19 42 NO. 7.



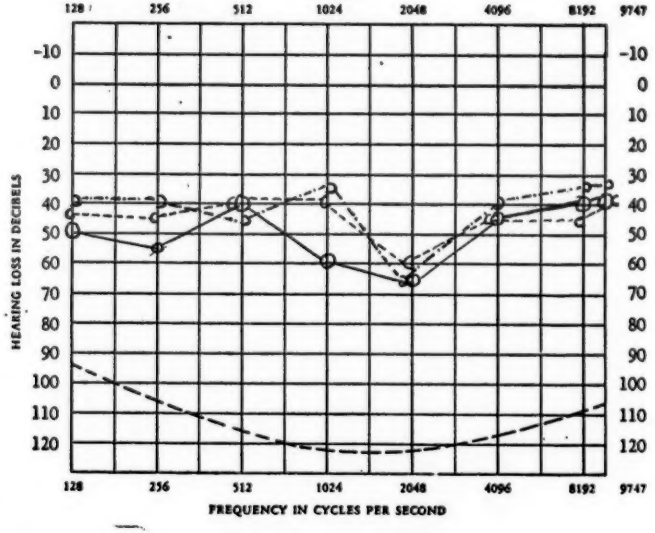
Air Conduction left ear ●–erect, +–forward, O–back, (–right,)–left) bending of head

G. B. f. AGE 18 DATE June 9 19 42 NO. 8

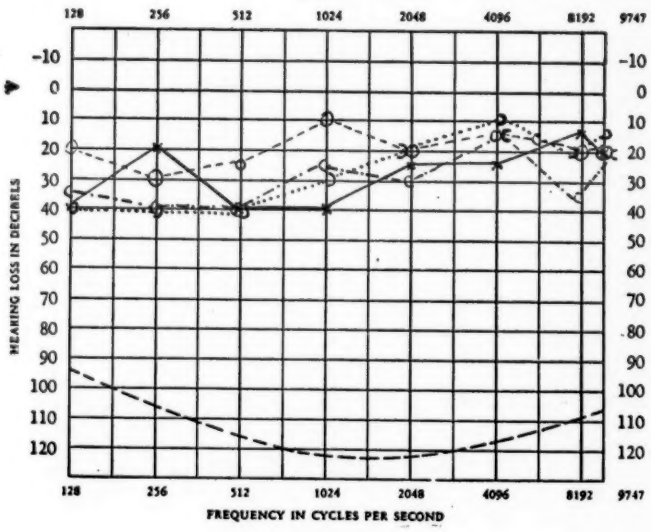


Air conduction, right ear X–erect position, (–lying on right side,)–lying on left side

G.B. f. AGE 18 DATE June 9 19 42 NO. 9



E.S. AGE 32 DATE Jan. 21 19 43 NO. 10



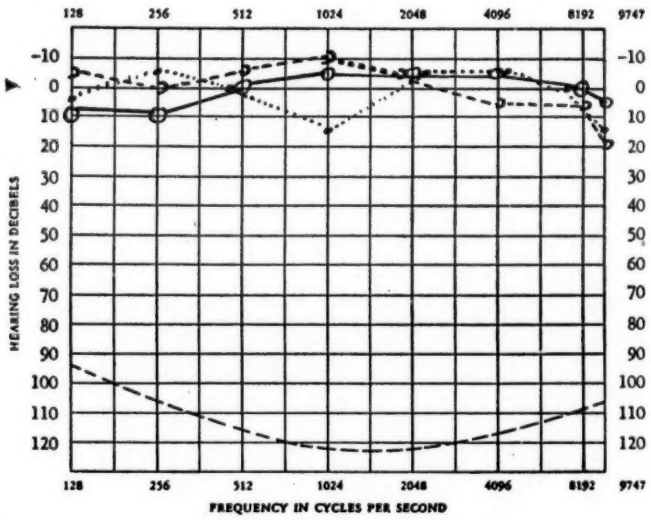
Air conduction, left ear

O–erect position
(–lying on right side
)–lying on left side

Air conduction
X–R. ear) lying flat on back
O–L. ear)

(–R) lying on right side
)–L)

A. J. AGE DATE Sept 22 19 42 NO. 11



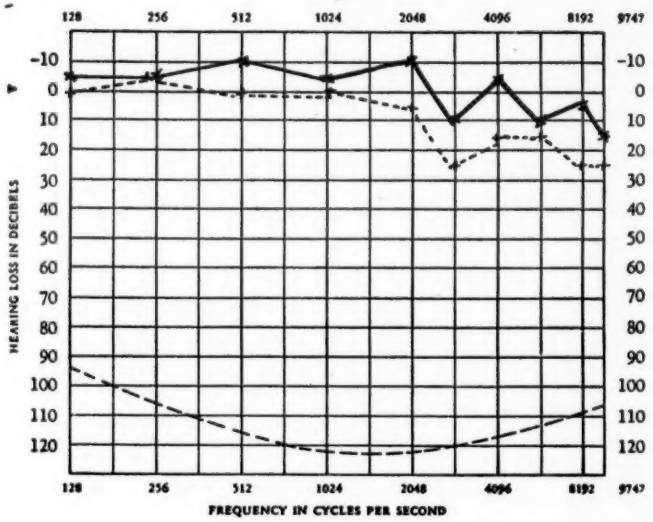
Left ear:

O–lying on back

)–lying on left side

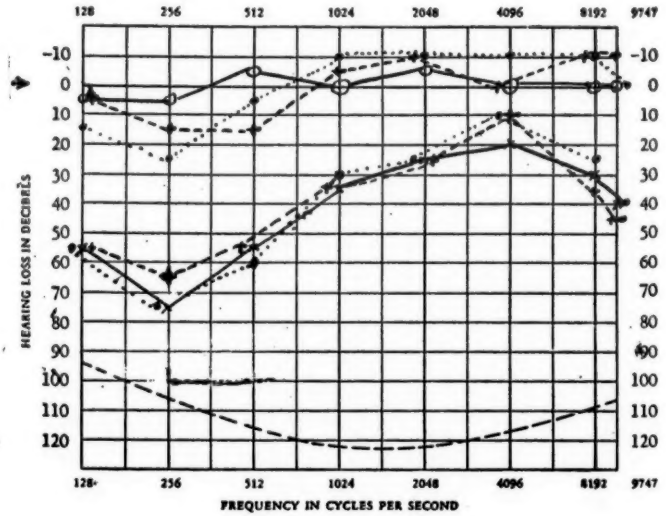
●–lying on right side

A. J AGE 39 DATE June 6 19 40 NO. 12



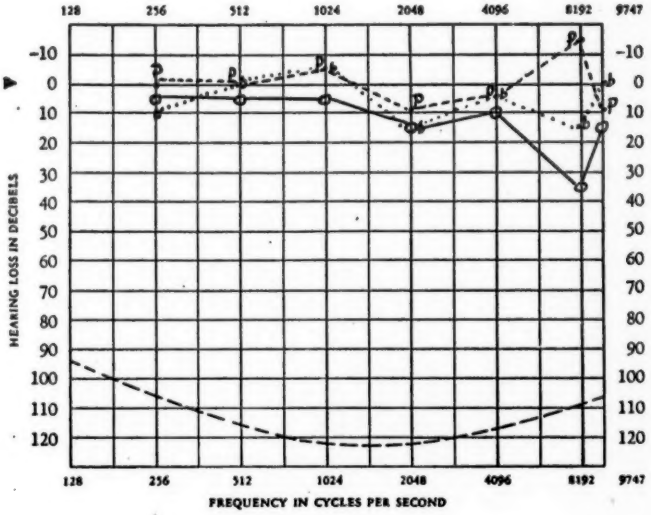
X–before)
) Passive rotation to the right side
+–after)

M. E. m AGE 48 DATE March 9 1943 NO. 13



+–red glasses o–l)
) neutral
●–blue glasses x–r)

B. W. m AGE 42 DATE Feb. 11 1943 NO. 14



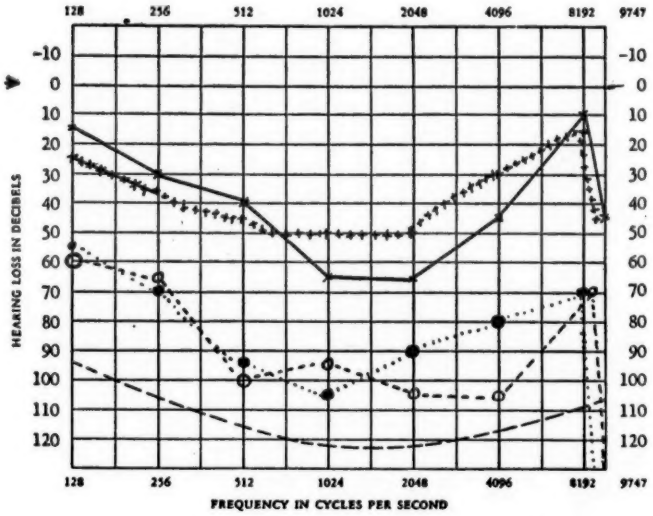
Bone conduction, mastoid, left,

O–eyes open, no glasses

P–pink glasses

b–blue glasses

M. G. f AGE 52 DATE Feb. 15 1945 NO. 15 a

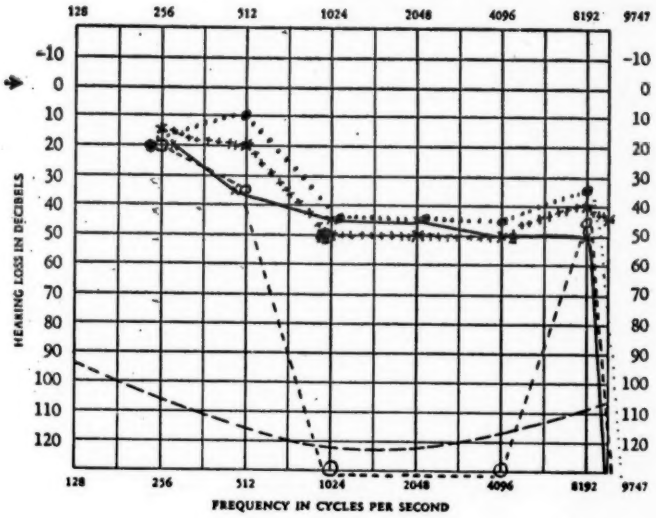


Air conduction

x–before
+after
O–before
●–after

10 breathing exercises

M. G. f AGE 52 DATE Feb. 15 1945 NO. 15 b

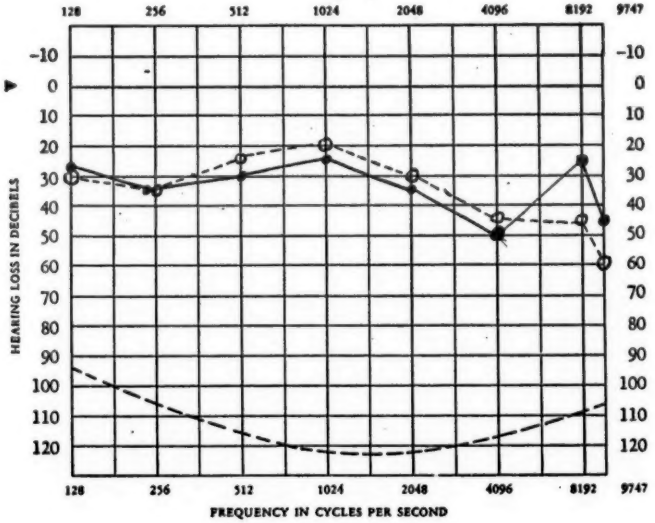


Bone conduction

1. O–before
●–after
r. X–before
•–after

10 breathing exercises

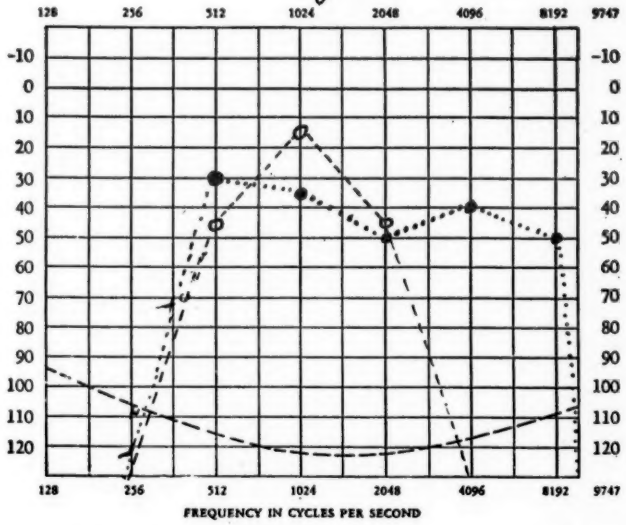
Th. M. m. AGE 22 DATE Jan. 30 19 45 NO. 16 a



Left ear, air conduction

O–before
●–immediately after
} 10 breathing exercises

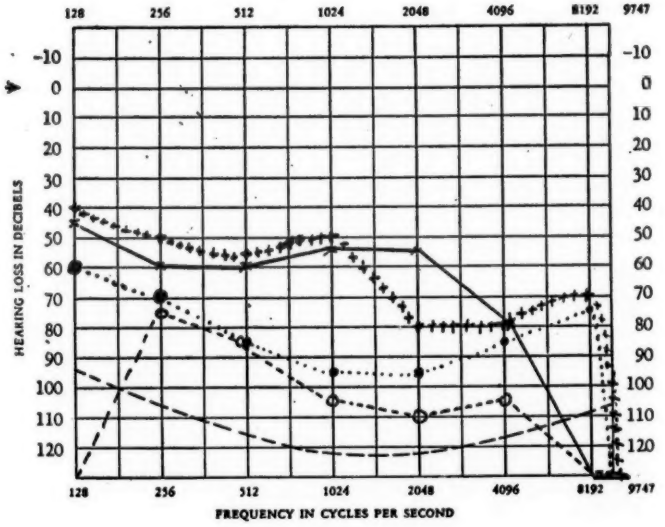
Th. M. m. AGE 22 DATE Jan. 30. 1945 NO. 16 b



Left ear, bone conduction

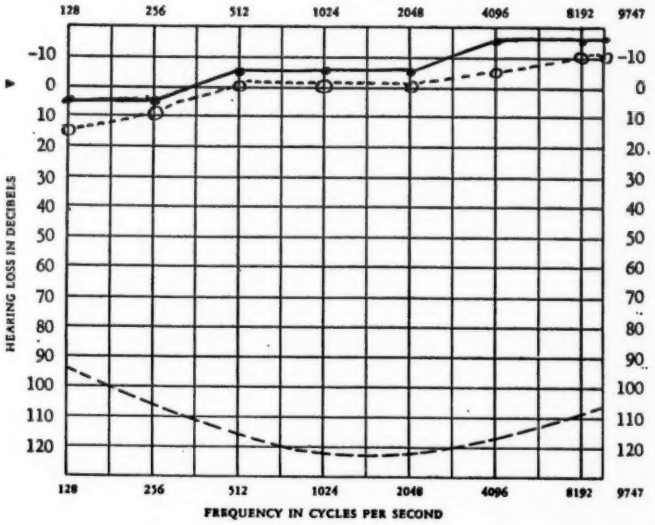
O–before
●–immediately after
} 10 breathing exercises

I.R. m. AGE 38 DATE Feb. 27 19 45 NO. 17



X–r.)
O–l.) before
+–r.) 10 breathing exercises
●–l.) after

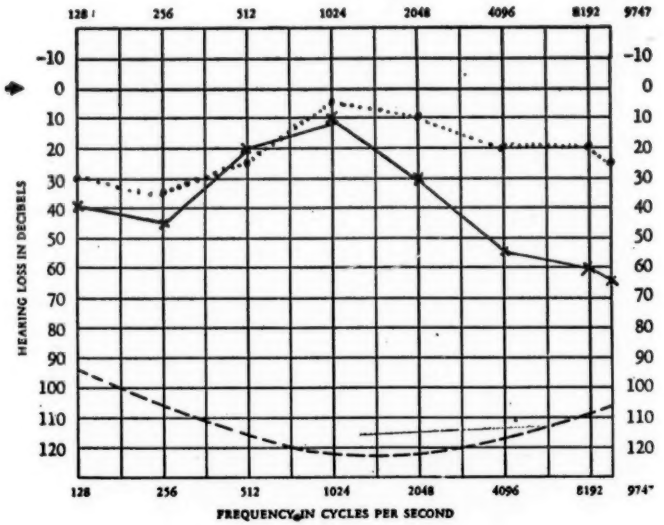
A.J. f AGE DATE Jan. 30 19 45 NO. 18



Left ear

O–before)
) 5 maximal inspirations and expirations
O–after)

J. W. on. AGE 36 DATE May 4 19 43 NO. 19



r— ear

X—before
●—15' after
} injection of V+Am. As.

Proceedings

...of...

THE ASSOCIATION FOR THE ADVANCEMENT OF PSYCHOTHERAPY

Officers

President: Frederic Wertham, M. D.

Vice President: Joseph Wilder, M. D.

Secretary-Treasurer: Emil A. Gutheil, M. D.

The program of the November session (November 30th, 1945) included the paper read by Dr. Augusta Jellinek. Its title was "Psychosomatic Problems in Hearing (with demonstrations)." The interesting presentation was followed by a lively discussion, which was opened by Emil Froeschels, M. D. The other discussants were Drs. Otto Lowenstein, Hans Robicsek, Max Jacobson, Frederic Grossman and Edith Klemperer. Dr. Wertham presided.

Dr. Jellinek's paper and the discussion remarks will appear in one of the next issues of our Journal.

At the meeting held December 14th, 1945, Alfred Angrist, M. D. presented a paper under the title "Psychopathology of Death." The discussion was opened by Philip Polatin, M. D. Other participants in the discussion were Drs. Joseph Wilder, Joseph Meyer, Alexander Freed, and Werner Engel. Dr. Wertham presided.

The first scientific meeting of 1946 was held on January 25th, 1946. Joseph Wilder, M. D. read a paper on "Personal Meaning of Organs in Psychosomatics." In the discussion participated Drs. Werner Engel, Emil A. Gutheil, William Mayer and Alfred Schick.

The scientific meeting was followed by the election of officers for 1946. The President, Vice President and Secretary-Treasurer were re-elected. Edgar Trautman, M. D. and William Wolf, M. D. were

re-elected to the Board of Directors for a term of three years expiring December 1948).

During the next scientific sessions of the Association the following papers will be presented: Alexandra Adler, M. D.: "Social and Individual Factors in Neurotic Disorders of Children"; Alexander Freed, M.D.: "The Psychology of the Cancer Patient;" Ernest Jolowicz, M. D.: "Consciousness in Hypnosis and Dream;" Charles Fisher, M. D.: "The Psychogenesis of Fugue States;" Paula Elkisch, Ph. D.: "Children's Drawings and Their Value to Psychopathology and Psychotherapy;" and J. L. Moreno, M. D. (Subject will be announced.)

Seminars

At present the following seminars are held: Dr. Frederic Wertham on "Adult Education on Child Guidance" for the Queensboro Federation of Mothers' Clubs. Tuesday, Feb. 5, 1946. (I.) *Before the Child is Born.* What is child guidance and mental hygiene? General principles of the modern study of the child. Understanding not only special abilities and functions, but the whole child. Happy children and happy families. Home-building and well-adjusted family life as background of healthy development of child. Parents' responsibility and preparation for the rearing and education of children. — Tuesday, February 19, 1946. (II.) *The Pre-School Child.* Landmarks in the growth of the child from birth to maturity. The beginnings of mental life in the infant. Development of emotional life and social attitudes. Crucial stages in development and their problems for the child. Principles of training and education in relation to actual development of the child's personality. — Tuesday, February 26, 1946. (III.) *Intelligence, Learning and School.* The five components of the school situation. The different types of comprehension in children. The development of intelligence and the methods of testing it. Special abilities and disabilities. The importance of literature for children. — Tuesday, March 5, 1946. (IV.) *The Character of the Child and the Problems of Adolescence.* Puberty the most conspicuously critical period for the child. Character of child formed much earlier. Growth as a transition from equilibrium to desequilibrium, with return to a higher equilibrium. So-called adolescent disorders often aggravated by lack of adult understanding. Fundamental reaction types of the child and their meanings. Positive and negative aspects of some elementary psychological reactions. — Tuesday, March 12, 1946. (V.) *What*

Can Go Wrong With Children? The somatic factor. The emotionally disturbed child. Psychic symptoms as a result of emotional disorders. Habit formation. Social relations with playmates, parents, siblings and teachers. Delinquency or Disease? Short-circuits in the child's adjustment. – Tuesday, March 19, 1946. (VI.) *Education, Guidance, Prevention and Treatment.* Education, guidance, prevention and treatment closely interwoven. Treatment of difficult children as a form of reeducation. Frequent exaggeration of harmless and innocuous children's difficulties. Special methods for more serious behavior disorders. Community agencies for child welfare.

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Dr. Augusta Jellinek's seminar on "Speech Correction" commences Monday, February 11th 1946. It comprises eight sessions held on Mondays, with the final session held on April 1st, 1946. *Place*: Dr. Jellinek's office, 155 East 72nd Street. *Time*: 8:30 P. M. *Fee*: $10.00 for Members, $20.00 for non-members.

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Physicians who wish to join the Association or to attend the seminars and lectures may apply to the Secretary-Treasurer, Emil A. Gutheil, M. D. 16 West 77th Street, New York 24, N. Y. Telephone ENdicott 2-3754.

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Erratum

Announcement is hereby made of a correction in the title of Wolfgang Born's Article in the last issue. Dr. Born's title was erroneously given as M. D. instead of Ph. D.

Abstracts From Current Literature

A — Neuropsychiatry

OBSERVATIONS ON THE PRIVATE PRACTICE OF PSYCHIATRY. WENDELL MUNCIE, *The American Journal of Psychiatry*, 102: 111-113, No. *July* 1945.

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This article is concerned with the difficulties confronting the practicing psychiatrist. Apart from the obvious satisfaction which he will derive from his profession, he will also find himself seriously handicapped in a number of ways.

It is pointed out that, first of all, the newly established practitioner will find it almost impossible to obtain satisfactory hospital facilities for his patients. Most of the good psychiatric hospitals are "closed" instiutions and whether they do or do not admit the psychiatrist's private patients as their own is entirely a matter of their choice. Moreover, many patients are unwilling to enter a hospital because the change in professional care does not appear desirable to them, or because they resent the waste of time caused by the need to establish new contacts and to go through their history all over again.

While in some cases such a complete change might prove advantageous, there are also many others for which the contrary is true.

The practitioner who has failed in his efforts to place his patient in a psychiatric hospital may now attempt to have him admitted to one of the general hospitals. This, too, will prove a failure, for even if the patient is accepted by one of the general hospitals, it will not be possible for him to enjoy the special kind of service which he needs and which a psychiatric institution is prepared to give. In addition, there exists considerable reluctance on the part of the personnel of general hospitals to accept psychiatric patients at all, and in any event, they could only admit a very limited variety of psychiatric cases since the danger of suicide is too great in even the most mildly depressed ones. The author emphasizes the necessity of a thorough program of education with the aim of eliminating the hostility shown by general hospital personnel towards accepting psychiatric patients.

The third serious obstacle with which the practicing psychiatrist will be faced is the lack of possibilities to participate in the training programs of the established clinics. One of the main reasons why there are no "attending psychiatrists" in the true sense of the word at the big psychiatric hospitals is the obvious advantage derived from a uniform system of teaching and treatment. While it is clear on the one hand that a large number of dissenting elements would be harmful to an organization, it is also true that "any single system may finally exhibit ex-cathedra propensities."

This fact which is in marked contrast to the conditions existing in the medical and surgical field where different viewpoints as well as a combination of part-time and full-time services has been recognized as beneficial and desirable, shows that psychiatry has as yet failed to create a definite status for itself. According to the individual attitude of each hospital head, it is either violently defended or attacked and there is a conspicuous lack of that tolerance which is essential for thorough training and instruction.

It appears that there are only two alternatives in order to remedy this situation. The first would be to give the qualified general practitioner access to the "closed" hospitals, in the same way as general hospitals admit internists and surgeons. The second possibility would be to establish in the general hospital psy-

chiatric departments which have their own residents and attending staff.

It seems unlikely that the first alternative could provide a satisfactory solution since the existing closed hospitals do not by far have a sufficiently large number of beds, nor a staff sufficiently acquainted with the various types of treatment required to need the present need for psychiatric facilities. In addition, many of these institutions are devoted to some special kind of training or research which would seem to explain the need for unity of opinion and therapy.

The practicioner thus becomes isolated and may be inclined to feel rather hopeless. If he attends any meetings of the various societies, he finds that the practical issues he is fighting against are being ignored, that none of the established psychopathological principles are ever challenged; " . . . he is fed on 'research', statistical studies, exhortations and effulgent praise of this or that pioneer—mostly from representatives of the closed institutions."

The author suggests that in order to overcome his isolation and the feeling that unless he is backed by some "title" he cannot successfully proceed in his work, the practitioner should realize the following facts: He must, in the first place, recognize that at present it is the practitioner who has to deal with the greatest part of the total number of psychiatric cases in the country. Secondly, the fact must be acknowledged that his activities are severely limited by the lack of psychiatric facilities in general hospitals, available to all, and by the lack of established psychiatric hospitals open to everybody. Thirdly, it is impossible to judge the quality of psychiatric work by the results obtained in a few specialized hospitals. The only yardstick would be the measure of success gained in the application of psychiatric facilities to the general public.

Unless the number and the quality of training of psychiatrists is substantially increased, the status of psychiatric care will never be equal to that of medicine and surgery. The prospective extension of medical insurance will undoubtedly greatly increase the demands upon private psychiatrists, making the present limitations of that profession more obvious than ever.

Finally, the practitioners must form local as well as national organizations which would have as their aim the education of hospital heads, physicians, and the community generally towards the recognition of the shortcomings of the problem. The basis of such an organization must be the understanding that "this is no profession of psychopathologic nihilism, but a challenge to a pooling of experience, an invitation to an 'open' rather than to any 'closed' system of psychopathology."

If the practitioners are successful in their efforts to obtain an improvement in the present psychiatric services through the successful utilization of their community contacts, they will also find that this presents an opportunity to enlarge their private psychiatric practice.

Muncie points out that a recently founded organization in Maryland—the Association of Private Practicing Psychiatrists—which includes representatives of every branch of psychiatry, is making serious attempts to investigate these problems which confront all practitioners; to examine whatever opportunities there are for improvement of present conditiones, and to exert its influence in this direction. The author believes that, since there definitely exists an interest in the problem—be it sympathetic or otherwise—the formation of similar organizations throughout the country would be invaluable in uncovering and eventually solving the existing difficulties.

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AGE AND ELECTROENCEPHALOGRAPHIC ABNORMILITY IN NEUROPSYCHIATRIC PATIENTS. *A Study of* 1593 *Cases.* MILTON GREENBLATT, M.D. *The American Journal of Psychiatry,* 101: 82-90, *No.* 1, *July* 1944.

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In classifying the electro-encephalograms of persons of various ages little consideration has thus far been given to the changes in the brain wave pattern that occur with advancing age. It has been shown that the brain rhythm in younger age ranges is rather slow and that it grows faster with progressing age. At approximately the age of 13, the adult brain wave pattern is established. However, gradual changes do occur in the EEG during middle and old age although these are not as apparent as the changes observed in children and are, at present, generally disregarded. In his paper, Greenblatt makes an effort to show that a relationship exists between the EEGs of neuropsychiatric patients and their ages.

EEGs of 1,593 patients with acute mental disturbances were taken and, in addition, records were made of 240 normal persons. The ages in the control group ranged between 18 and 40, ninety per cent being between 20 and 30 years old. 10 per cent of the controls had abnormal EEGs.

The records were obtained by applying electrodes over the frontal, parietal, and occipital regions, and by taking monopolar as well as bipolar recordings.

Records considered normal for all ages were those that had essentially an 8 to 12 per second wave frequency and showed only slight changes during the two minutes of hyperventilation. Records regarded as abnormal for all age groups exhibited a rhythm that was either slower than 8 per second or faster than 12 per second and showed abnormal changes during overbreathing, appearing in the form of an increase in voltage and decrease of frequency. Abnormal records were subdivided into "predominantly slow" and "predominantly fast" ones, those containing a mixture of both rhythms were described as "mixed" slow and "mixed fast."

The following psychoneurotic disorders were examined: schizophrenia, psychopathic personality and behavior disorder, manic-depressive depressed states, manic-depressive manic conditions, senile and arterio-sclerotic psychosis, psychosis with mental deficiency, mixed psychoneurosis, involutional psychosis, and alcoholic psychosis.

The distrbution of these conditions in the different age groups varied considerably. Schizophrenia was found most frequently in the 25-35 years group; psychopathic personality and behavior disorder in the 15-25 years range. Manic-depressive psychosis and alcoholic psychosis reached a peak between 35 and 45 years, while the incidence of psychosis with mental deficiency was highest among the "under 15 years" and the 15-25 years age groups. Involutional psychosis was observed most often among the 45-55 years old patients and arterio-sclerotic psychosis had its highest peak after the 55th year.

Of 51 patients under 15 years of age, 30 were suffering from psychosis with mental deficiency. Of these, 23 showed abnormally slow brain wave patterns. The total percentage of abnormal EEGs in this age group was 57. 506 patients between 15 and 25 years were examined, 189 of whom had psychopathic personalities with behavior disorders. 63 of their EEGs were considered abnormal since they had a large amount of slow activity; the rest were normal. The incidence of schizophrenia in this age group was 126, with 29 abnormal EEGs. 31 percent of the total number of EEGs taken in this age group were abnormal. and 35, 177 were schizophrenics with 41 abnormal EEGs. A total of 28 per cent abnormal EEGs was found for this age Of 433 patients between the ages of 25

group. In the 35-45 years group, consisting of 305 patients, 41 were manic-depressive depressed. Of these, 9 had abnormally fast records. 27 per cent of all the EEGs in this age range were abnormal. Of a total of 189 patients examined in the 45-55 years age range, 38 suffered from involutional psychosis and the same number from alcoholic psychosis. Of the former, 19 had abnormal EEGs, characterized by a great deal of fast activity. 10 abnormal records were found among the alcoholics, For the whole group, the percentage of abnormal EEGs was 35. In the group of 99 patients who were 55 years, and older. 27 were found to be suffering from senile and arterio-sclerotic psychosis. 17 of these had abnormally slow records. 43 per cent of all the patients in this age group had abnormal EEGs.

Of the total number of 1,593 EGGs taken, 504 (32 per cent) were found to be abnormal. Of these 151 (10 per cent) were abnormally slow, 148 (9 per cent) had an abnormally fast rhythm and 205 (13 per cent) showed mixed slow and fast activity.

With regard to the various disorders, the percentage of abnormal records for the total number of cases was as follows: alchoholic psychosis, 22 per cent; schizophrenia, 23 per cent; psychopathic personality and behavior disorder, 31 per cent; manic-depressive depressed, 31 per cent; manic-depressive manic, 42 per cent; psychosis with mental deficiency, 50; involutional psychosis, 51 per cent; and senile and arterio-sclerotic psychosis, 54 per cent.

It was found that fast activity predominated in involutional psychosis and manic-depressive depressed states, while psychosis with mental deficiency and psychopathic personality and behavior disorders were characterized by a large amount of slow whythms. A great deal of mixed slow and fast activity was observed in psychosis with mental deficiency, manic-depressive manic conditions, psychoneurosis, and involutional psychosis.

The incidence of EEGs abnormality regardless of the type of psychic disorder was found to take the form of hyperbolic curve, i. e., it was highest in the under 15 years age group and among the 55 and older patients and at its lowest in the age groups of 25 to 45 years. While 57 per cent in the youngest and 43 per cent in the oldest group had abnormal records, the percentage in middle age was 27-28 per cent. It should be noted again that all those records in which there was a deviation from the 8 to 12 per second rhythm were automatically classified as abnormal, irrespective of age or clinical diagnosis.

The apperance of the different types of abnormal EEGs seems to have a definite relation to age. The incidence of slow activity is highest in the under 15 years group (27 per cent), then falls rapidly and rises again in the oldest group. The least amount of slow activity was observed in the age groups of 35 to 55 years, where the percentage was only 5. Fast activity, on the other hand, is at its lowest point (4 per cent) in the youngest age group but its curve rises steeply to 20 per cent among the 45-55 year olds, after which there seems to be again a decline. Thus, the highest incidence of fast activity and the least amount of slow activity is found in this last age group (45-55). The curve for mixed fast and slow activity is similar to that for total abnormality, i. e., it has its peaks in the youngest and oldest groups and declines during middle age.

The question arises, therefore, as to what degree the incidence of abnormality in the general psychiatric population may account for the incidence of abnormal brain wave activity in the various clinical groups. The smallest number of abnormal EEG records was found in alcoholic psychosis and schizophrenia; the greatest number in psysho-

sis with mental deficiency, involutional psychosis and arterio-sclerotic psychosis. These latter conditions appear predominantly in youth, late middle age, and old age, respectively, when the incidence of abnormal records is high, even in normal people. Alcoholic psychosis and schizophrenia occur mostly between the ages of 15 and 45 when the incidence of abnormal EEGs is low. Moreover, involutional psychosis shows a considerable amount of fast activity, whereas pyschosis with mental deficiency and psychopathic personality with behavior disorder usually have slow rhythms—and these factors are consistent with the age range at which these conditions are most likely to appear.

The increase in abnormality in youth and old age as well as the fact that a number of psychoses (involutional psychosis, alcoholic psychosis, etc.) show an upward trend with regard to abnormality beyond 35 to 45 years, appears to prove that the incidence of electroencephalographic abnormality in the different psychoses is dependent upon the age range in which these disorders occur. This theory, however, is contradicted by the fact that a certain age the incidence of the various psychoses differs widely and that one type of electrical abnormality may be more predominant in one psychosis than in another even though both may occur in the same age range. It follows, therefore, that age as well as the type of mental disorder have an important influence on the electrical activity of the brain and that these factors must be taken into consideration when interpreting EEG records.

Consideration of the above findings points to the necessity of a change in our concepts of electroencephalographic "normality" and "abnormality". No correct interpretation is possible unless full attention is paid to the changes associated with age that occur in the brain wave pattern.

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B — Psychosomatic Medicine and Biology

THE NEEDS OF YOUTH. *The Physiological and Psychological Factors in Adolescent Behavior.* JACOB E. FINESINGER. *Psychiatry*, 7:45-57, *No.* 1, *Feb.* 1944.

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The strict division of human life into periods of infancy, chilhood, adolescence, adulthood and senescence has been replaced by the realization that none of these periods constitutes a separate entity but that they are rather the result of a process of "emergent evolution." Each stage is to a large extent the product of the one that antecedes it.

With the acceptance of this genetic approach it was also recognized that the human being represents a unit consisting of many components the interaction of which determines his behavior. This concept does not, of course, exclude or deny the importance of understanding and investigating the individual components.

Adolescence and the physical and mental changes that accompany it are normal phenomena in the development of human personality. The onset of adolescence coincides with the onset of puberty and "the maturation of productive function." In the female this is signified by the onset of menstruation, in the male by the production of motile spermatozoa. At the same time, or in many cases earlier, the secondary sex characteristics appear and changes also occur in the body structure, the voice and

behavior. There are notable differences in the age at which adolescence begins in different people; its onset is also influenced by climatic, hereditary and dietary conditions. Thus, the puberty of girls who are members of the Mediterranean races occurs generally between the 11th and 12th year, or even earlier, and in boys between the ages of 12 to 14, while in members of Scandinavian races it does not start until they are between 14 to 16 years old. In America, the onset of puberty in girls takes place between 12 and 15 years, and in boys at fourteen.

While adolescence and puberty begin at the same time, puberty represents only a part of adolescence, namely, the period during which sexual maturation takes place which is two to four years after the onset of puberty. Adulthood begins in girls at the age of 20, in boys at twenty-two.

At the same time as these physical developments take place, there occur also fundamental changes in the emotional and intellectual life of the adolescent. He shows a tendency towards introspectiveness and rebellion against his parents; in occupying himself with new interests he attempts to find a vocation for himself; and the increasing sexual urgings demand adjustment between personal desires and social rules. He goes through intense emotional conflicts, accompanied by extreme sensitivity. The inability to deal with these problems successfully results in delinquency.

As the adolescent becomes more and more conscious of his bodily developments and feelings, he tends to compare himself with other persons with the result that he is constantly torn between feelings of inferiority and superiority and a strong urge to assert himself at all times. This he will try to achieve by assuming certain poses and mannerisms which increase his difficulties of adjustment and often stress insecurities derived from early childhood.

In his effort to resolve the problems with which reality confronts him, the child may seek escape in either direct action or in the devotion to ideas or religion. The direct action manifests itself in a rebellious spirit against established rules and a bravado which is supposed to hide the increasing sense of insecurity and the existence of emotions.

The resistance against the parents accompanied by the refusal to acknowledge their authority frequently results in alienation and thus in the removal of any stabilizing influence the family might be able to exert. As a consequence, the child associates with gangs and may turn into a delinquent.

The process of emancipation is frequently complicated by feelings of guilt which may have their source in the sexual sphere. Children who never felt the need for excessive dependence upon their parents have generally less difficulties during puberty.

The development of the primary and secondary sex characteristics focusses the child's attention upon this subject. While he has, heretofore, been conscious of sexual differences "in a simple and direct way" he is now concerned with his own specific tendencies and feelings in this respect. Serious conflicts may develop in children who were brought up with notions of taboos, uncleanliness of sexual manifastations, etc. These may result in rebellion against the parental attitudes and in indulgence in loose sex talk, or even actions, or in the flight from the reality situation by idealization of the opposite sex.

It is of extreme importance to properly prepare the child for the occurrence of such natural functions as masturbation, menstruation and nocturnal emissions since severe conflicts may otherwise develop. Guilt feelings about masturbation and other sexual manifestations may lead to truancy, destruc-

tiveness, and other aggressive symptoms. The child who does not meet with proper understanding will feel wounded in his sensitivity, will become ashamed to discuss his troubles, and be unhappy, moody and belligerent. In some cases, guilt feelings with regard to masturbation and homosexual tendencies or experiences result in states of emotional panic or flight from reality associated with an intense preoccupation with the bodily functions, similar to that observed in hypochondriasis. With proper treatment and understanding these conflicts can be resolved with progressing maturity.

Generally, the dietary requirements of the adolescent do not present a serious problem. Certain conflicts, however, mostly deriving from early childhood, are responsible for the refusal of the child to eat certain foods or for his inability to retain them. Anxiety, hostility, the desire for domination over his parents, and in girls phantasies of oral impregnation may account for them. One of the eating disturbances sometimes seen is anorexia nervosa. This is characterized by the girl's refusal to eat, apparently for the purpose of slimming. Yet even after she has lost the desired amount of weight, the patient continues to refuse food until, in extreme cases, she may die of starvation. In other such patients the period of starvation is succeeded by a period of overindulgence and gorging of food, with the exclusive preference for special delicacies or highly spiced foods.

It is important to distinguish between the obesity associated with certain glandular disfunctions (Froehlich's syndrome, hypothyroidism) and obesity in puberty without hormonal disturbance. While hormonal therapy is indicated in the disfunction syndromes, no such treatment should be administered in the latter type of obesity. It has also been observed that obese children usually show acceleration of growth and maturity which is contrary to the retardation in glandular obesity. It is Brauch's opinion that overeating and inactivity occurring simultaneously with retardation in social and emotional development can be regarded merely as a part of a general maladjustment and as a reaction to an overprotective environment. Overeating in these cases represents an attempt by the child to compensate for his unsolved problems by finding a pleasant source of activity. It appears logical to treat those cases with psychotherapy and diet.

The most urgent need of the adolescent is for helpful understanding and acceptance which should manifest itself not so much in words as in reasonable attitudes. This calls for the ability of the parent and teacher to act independently of their own personal conflicts and to avoid judgment by their own standards. Cynicism, criticism and superiority will only add to the child's conflicts and his isolation. It must be recognized that the adolescent's problems are real and that the best way to aid him in his struggle is by satisfying his fundamental emotional need for security. This can only be achieved where a good relationship exists.

The special behavior patterns that are developed in relation to members of the family are later transferred to other social contacts. In the case of the adolescent where adjustment is not as yet complete, the discrepancy between his desire to be recognized as an independent human being and the reaction of his environment may lead to serious emotional upheaval. While in some cases it may be necessary to resort to psychoanalysis in order to help the child to integrate his various drives, it is generally possible to employ simpler methods. It may be sufficient to reassure the child with regard to the normal nature of his conflicts, to eliminate or reduce his feelings of inferiority and guilt through sensible explanations and to provide him with some insight about his own personality and situation as well as that of other people.

As far as sex education is concerned it is advisable to give the child all the information it appears to need - but no more. This information should be given in a natural matter-of-fact manner after it has been established how much the adolescent actually knows. In this way it is possible to clear up certain misunderstandings and thus avoid further conflicts. The most important thing is to eliminate sexual guilt feelings with whatever aspect of the problem they may be concerned.

The adolescent should be encouraged to deal with his problems in his own manner and to assume the responsibility for his decisions. If he is well adjusted as far as his personal and emotional needs are concerned he should well be able to do this.

It is essential to supply outlets for the adolescent's need for educational, emotional, and social adjustment which has actually existed a long time before puberty. "The ideal status is one in which adequate behavior in response to personal needs merges almost imperceptibly from one period of development into the next."

In order to divert the adolescent from introspection and in order to reduce the danger of a social behavior which results therefrom, he must be provided with activities of an intellectual or manual nature that will stimulate his interest. In its best form, such education can make use of the existing abilities and interests of the child and guide him towards the full development of his personality and towards his vocation in adult life. Interference by parents who, for one reason or another, may wish to force the child into an occupation of their choosing must be avoided.

Activity in social and athletic clubs, dancing, etc., should satisfy the adolescent's need for social intercourse and should provide him with the possibility of meeting persons of the opposite sex in a natural way.

The most important aim is the successful social and personal adjustment of the adolescent. This can only be achieved through proper treatment based upon a more accurate knowledge of the components involved as exists at present.

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THE NEURODYNAMICS OF BEHAVIOR. *A Phylobiological Foreword By* TRIGANT BURROW, M.D., PH.D. *Philosophy of Science,* 10:271-288, *No.* 4, *Oct.* 1943.

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We find ourselves in a time of unprecedented changes of rapidly broadening concepts in the social, political, economic and scientific fields. The departure from customary patterns of thought in various branches of science introduced man to new spheres of the senses. But none of the discoveries in the physical and biological fields has anything to do with the interrelational behavior of man. The control of new spheres of the man's internal balances of function, with external universe has nothing to do with his disposition to internal conflict.

Equally radical alterations are needed in the field of psychopathology. A wholly altered frame of reference is required for meeting the many problems of man's personal, civic and international behavior. The disorders of human behavior require to be seen as a problem in neurodynamics necessitating a searching study of the function of the brain and its appendages as they mediate man's organismic adaptation to the outer world. Our present psychiatric systems appear quite obsolete and inept when contrasted with the basic principles of an organismic phylobiology. Phylobiology seeks to determine the phylic basis of our many shifting and accidental symp-

toms and to define the physiological substrate of man's personal and social symptom-complex.

Superstition still influences the approach to the field of human behavior. But all scientific advance has been preceded by an arbitrary pseudo-science dominated by superstition, metaphysical theory and symbol-juggling. And any suggestion of methods of direct observation of structures and functions still cause the psychopathologist to cling the more tenaciously to his traditional thought-patterns. The very nature of man's social conditioning impedes a viewpoint that transcends his conditioning.

Man's neural conformity to the observable consistency of external phenomena has made possible the consistency of his own responses. It has made possible the development of a systematized body of symbols or indices that mean what they say. This unvarying parallelism between external stimulus and internal response has established the law or *nomen* upon which all scientific knowledge rests.

In man's early use of the symbol, however, he did not always adhere to the consistent relation between his senses and the outer object. Because of the growing domination of the symbolic part-brain with its affective involvements there occurred a serious dislocation in man's use of his senses. The social image with its superstitious, anthropomorphic, non-objective implications distorted man's perception and behavior. Man fashioned an inflated image of himself and along with it the esoteric symbol of a benign Father-protector. The *nomen* or organismic authority which determines the consistent correspondence between man's senses and the external world has been replaced by a whimsical *numen* ("divine will") or false image of authority. A vicarious, image-conditioned security came to atone for the loss of the organism's primary basis of adjustment. Growing evidence indicates that this numinal impediment is traceable to a neurodynamic dislocation which can be objectively defined. The affect-distortions pervading normal communities represent the symptomatic expressions of this internal disorder; they have been observed consistently through the method of group- or phylo-analysis as carried on for many years by the author and his associates.

On the basis of his phyloanalytic investigations Dr. Burrow has been brought to the conclusion that man can recover the consistent function of his senses only in the measure in which he suceeeds in throwing off the distorting influence of the social numen or the private self-image. As yet science has not established a phylic norm of behavior and hence possesses no phylic concept of behavior-deviations. The anthropomorphic numen with its prerogatory assumptions still dominates man's social, political, religious, and economic institutions. Hence any individual, group or nation is at liberty to believe whatever he likes to believe regarding his own conduct or that of others. Freud along with other psychopathologists has failed to reckon with the significance of this socially prevalent affect-impediment. They have not sensed the unconscious projection of a phylic father-image that colors and fashions the reactions of social man. As psychiatrists we are not aware of the presence of this numinal or authoritarian impersonation within our own psychiatric ranks or of the extent to which it obstructs all possibility of an objective inquiry into man's disorders of behavior as a species. The unconscious mechanism of transference has really not been raised to the level of a conscious therapeutic technique. Having failed to recognize the personal and social implications of the transference, the psychiatrist has remained aloof from the social neurosis that affects the wider community of man. In order to progress to a more objective and fundamental understanding of human dissociation, we must recognize the social influence of the

father-image in our daily interchange, in our current social relationships.

The author with a small group of co-workers attempted to bring this unconscious mechanism of the social numen to controlled laboratory inquiry. They attempted to trace the source of man's unwitting interference with the function of his own organism. This effort required the recognition that conflict and destructiveness have superseded the intergrative forces of unity and cooperation throughout the race of man. It required the realization that man's customary social norm bears no relation whatever to a biologically established norm of behavior. From the background of phylobiological principles it is seen that both criminal and neurotic behavior inevitably issue from the common standards of so-called normal communities. It is seen that man's esoteric 'I'-persona is an expression of "the social neurosis" and that it is fundamentally different from the organism's primary basis of motivation.

To the phylobiologist nothing appears more urgent or of greater interest than the discovery of measures that will make it possible to demarcate man's affecto-symbolic processes (numen) from the organism's basic patterns of reaction (nomen). In the attempt to differentiate between these two neurodynamic patterns of behavior, the author discriminates between two types of attention, namely *ditention* in which the self-image exerts its distracting influence, and *cotention* in which the affective or numinal element is eliminated. The author has discussed in other reports the relation of these two aspects of attention to the problem of behavior-disorders. He has also described internal patterns of tension which characterize the two attentive processes as well as physiological alterations (respiration, electrical brain potentials, eye-movements) that are concomitant to them.

There are no end of laboratories in which man's symbolic (projective) capacity of adaptation has the opportunity to exercise itself in the various fields of scientific observation. But there remains to be established a systematically controlled technique of observation in regard to man's own internal behavior-processes. We can no longer limit ourselves to the affecto-symbolic symptoms of a purely interpersonal psychiatry. But in our newer outlook we shall establish such neurodynamic concepts as the "primary behavior of the organism in its phylic motivation" and from this broader background we shall envisage the universal conditioning of man in his present social adaptation. On such a basis it will be possible for man to correct his numinal deviations of behavior and to reestablish the fundamental balance of the organism's function in relation to the environment.

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AMNESTIC-CONFABULATORY SYNDROME (KORSAKOFF PSYCHOSIS) FOLLOWING HEAD INJURY. ARNOLD P. FRIEDMAN AND CHARLES BRENNER. *The American Journal of Psychiatry*. 102: 61-66, *No.* 1, *July* 1945.

The term confabulation denotes a symptom which appears in various states with prolonged mental confusion and which is characterized by an attempt on the part of the patient to make up for his memory defects by fabrication of memories. These fabrications are mostly related with an air of conviction and circumstantiality.

The first important description of this symptom in connection with alcoholic and non-alcoholic polyneuritis was given by Korsakoff in his two famous papers of 1887. and 1889. He noted that the great majority of these cases were

chronic alcoholics. He acknowledged, however, that also various other etilogical causes had to be considered (chronic infections, chronic metal poisoning, H_2S, CO, etc.). Doubtful as to whether the constant mental symptoms were in every case accompanied by the physical symptoms of neurosis, he replaced his original term "psychosis polyneuritica" with the term "cerebropathia psychica toxemica." However, neither of these terms was accepted in medical terminology and the term "Korsakoff psychosis" has been applied to the classical syndrome of confabulation accompanying polyneuritis.

Meyer (1904) noted the appearance of fabrications in a small number of cases where head injuries were followed by "protracted deliria" (acute traumatic psychoses).

(Schilder), 1934 described a group of (35 patients with acute psychoses following head injury. He described several stages in the mental development after head injury: the first stage of deep coma with complete muscular relaxation is substituted by deep cloudiness with resistiveness. Then comes a state of disorientation with impairment of "gestalt" function which is eventually replaced by the picture of a Korsakoff psychosis.

Bowman and Blau (1940), in describing the mental picture after head injury, listed only three basic stages: 1) coma; 2) delirium, twilight state, stupor, or apathy; 3) amnestic confabulation or Korsakoff psychosis. They note that these stages vary with regard to their incidence duration and demarcation, and stress that the Korsakoff stage, if at all present as a rule lasts longer than the other stages.

Merritt (1943) observes that almost all cases of head injury show some mental changes immediately following the return to consciousness. They are semi-stupor, bewilderment, a Korsakoff picture and euphoria, states which often succeed each other on the road to recovery.

This paper represents a study of 430 consecutive cases of head injury observed at the Boston City Hospital, with particular emphasis on those cases who showed the post-traumatic "amnestic confabulatory syndrome." This term is used instead of the more usual term of Korsakoff psychosis. According to the authors "Korsakoff psychosis" implies the presence of polyneuritic symptoms; a syndrome which is usually absent in head injury cases.

Of the whole group of 430 patients with head injuries 40 passed through a stage of prolonged confusion. Of these 40 cases, 9 evidenced the amnestic confabulatory syndrome. All 9 patients were males between the ages of 35 and 60.

In this group of 9 patients, 5 were known to be chronic alcoholics, 2 moderate alcoholics. Of the remaining two cases, one had allegedly been drinking very little in the past years and one was supposed to be a non-alcoholic. Yet it was he who during the confused months following his injury, took with great relish paraldehyde which was given to him for therapeutic reasons—a behavior which is frequently observed in chronic alcoholics.

Even if only the five known chronic alcoholics be accepted as such, the incidence of alcoholism among the group of 9 with amnestic confabulatory syndrome would still be much higher (55 per cent) than that among the whole group of 430 cases of which only 90 were proven alcoholics (21 per cent).

All patients in the group of 9 made a full recovery and the duration of the amnestic confabulatory syndrome varied between two and 44 days (average, 15 days). This favorable course differs greatly from that in real Korsakoff psychosis which shows a high mortality rate (30-55 per cent) and in which the mental changes usually last many months or years.

The group of nine patients as a whole showed evidence of a more or less severe damage to the brain tissues; six of them showed extensor plantar responses after the accident and one suffered a hemiparesis. Three of the nine had skull fractures and seven of this group showed bloody spinal fluid. The authors observe, however, that similar neurological findings were made in many patients without the described mental symptoms.

The duration of the permanent, post-traumatic amnesia (PTA) appears to offer a fairly correct index as to the extent of generalized post-traumatic brain damage. The PTA was determined by questioning the patient on the occasion of his first follow-up visit to the clinic after his discharge from the hospital, as to his first continuous memory after the accident. Again, as a group, the nine patients with amnestic confabulatory syndrome showed evidence of a much longer period of PTA than the rest of the patients, which fact can be accepted as proof for more severe brain damage. While the PTA in this group showed an average duration of 16 days, the whole group of 430 patients showed an average duration of less than twelve hours.

With regard to the group of 40 patients with prolonged states of post-traumatic confusion, it is interesting to note that the nine patients with the amnestic confabulatory syndrome (who were part of the group of 40) showed an average duration of the PTA of 16 days while the remaining 31 patients had an average duration of only eight days, i. e. half the time.

It was not possible to establish a clear cut relationship between the duration of the amnestic confabulatory syndrome and the maximum cerebrospinal fluid pressure, or the existence of plantar extensor responses. However, in the two patients without blood in their spinal fluid the duration of the amnestic confabulatory syndrome was the shortest (two and five days respectively).

Within this group of nine patients, four were of particular interest since they continued to confabulate after the return of orientation. However, it was noted that during the whole time of confabulation there appeared repeated episodes of confusion and disorientation and their sensorium cannot, therefore, be regarded as having cleared up completely. The fourth patient began to confabulate while he was still disoriented. but his confabulation continued for two weeks after he had regained orientation. This period was not disturbed by confused episodes. The faculty to retain memories for longer periods of time increased in the course of recovery. This fact is in agreement with the clinical observations in cases of real Korsakoff psychosis.

The nine discussed cases are amplified by thorough case histories.

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Behavior Problems and Habit Disturbances in Pre-adolescent Children. Meaning and Management. Robert P. Knight. *Bulletin of the Menninger Clinic Vol* 8, *No.* 6, 1945.

Educating parents in handling the psychological problems of their children is an important task of mental hygiene. There are four outstanding misconceptions which lead parents and teachers into serious errors in managing children: (1) The belief that everybody who uses "common sense" knows enough about human nature to be competent in rearing children. (2) The tendency to react in accordance with one's own rearing either by copying the parents' disciplinary methods or by swinging to

the opposite extreme. (3) The belief that children should be as little nuisance as possible. (4) The application of modern psychology together with an erroneous interpretation.

Knight points out that temporary bad behavior and little dishonesties of children such as lying, stealing, talking back, temper tantrums, masturbation or attempted sexual acts with others may be normal reactions brought on by some emotional needs and must not be considered as real problem behavior. A wise and understanding approach by the parents which attempts to meet the child's underlying emotional needs is the most effective educational method. Real problem behavior represents the result of mishandling by parents or the reaction of children to certain traumatic conditions at home or outside the home. Knight lists and discusses briefly the following behavior manifestations. (1) *Temper tantrums;* they are intentional emotional outbursts to gain a point against the parents through a method found to be effective in the past. Parents should never be influenced by such behavior into changing a decision. (2) *Childish tyranny;* it usually is brought on by lack of consistancy and firmness of an indulgent mother. If it is not met by change to discipline in early life, it may become impossible to change the child's character in later life. (3) *Timidity and fearfulness* associated with anxiety spells; these traits may be due to excessive parental strictness combined with overprotection causing dependence on the parents. It is a childhood neurosis which has to be treated psychiatrically, while at the same time the parents must be influenced into changing their attitude. (4) *Apathy, isolation and day-dreaming* are alarming signs of withdrawal from the real world into a fantasy world which later may lead to mental illness. (5) *Overobedience, compulsive neatness and perfectionism* represent a set of reaction formations to rebellious defiance against the parents. A child displaying such trends will tolerate failure very poorly and will react to it with a consequent depression and with self-destructive tendencies. (6) *Cruelty, bullying and over-aggressiveness* usually develop out of jealousy toward younger siblings or as a result of a cruel and rejecting treatment by the parents. A more affectionate management of the child may alter this aggressive behavior. (7) *Running away* represents the child's desperate attempt to be independent and to deny his strong need for affection. This behavior is more frequent in the period of adolescence than in early childhood. (8) *Frequent accidents and injuries* may indicate a considerable degree of unconscious guilt with a need for self-destructive punishment. The source of guilt feelings usually lies in the relationship between the child and parents or siblings. (9) *Sleepwalking* persisting into the teen age expresses impulses and desires which the child acts out in his sleep. Knight recommends hypnoanalysis as an effective means in such cases. (10) *Persisting and needless lying* up to and past the age of ten may point to developing delinquency and mental illness. (11) *Stealing* is considered by Knight as caused by a failure on the part of the parents to teach a child at an early age how to handle money on his own judgment. A child should not be forced to ask for money each time he wants something. He rather should get regularly, a small sum of money from the age of four or five on, and should take care of it according to his own judgment. (12) *Persistent thumb or finger sucking* beyond infancy indicates that the child uses this as a means for soothing his anxiety. *Nail biting* also serves the same purpose. (13) *Enuresis or soiling* after the age of three may occur as a reaction to some disturbing events or it may be due to a profound psychosexual conflict which requires a careful scrutiny. No punishment should be meted out in such cases. (14) *Excessive masturbation* is mostly associated with an emotional disturbance.

The underying conflict must be investigated with the help of a child psychiatrist. (15) *Fire setting* is invariably associated with other important psychosexual conflicts. (16) *Persistant transvestitism*, i. e. the wish of a boy to be a girl or vice verse, is a serious threat to the future development of the child; it must be taken care of in time.

Knight is of the opinion that education for parenthood and courses in mental hygiene should be a part of the curriculum of secondary schools and colleges. The rearing of children should not be left to the ignorance and the "common sense" of the parents. Sound psychological principles in rearing the child will prevent abnormal development. He stresses particularly the following three points:

(A) Consistent real affection from both parents will make the child feel wanted and secure.

(B) Consistent and firm discipline carried out with the view of the child's need and not of the parents' comfort will protect the child from feeling anxious and helpless in relation to his own instinctual drives.

(C) Sufficient understanding and tolerance towards the child's needs and willingness to seek help from a child psychiatrist whenever parents have to deal with problems beyond their understanding will be of great value in bringing up a healthy offspring.

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HEREDITY AND CRIME. ARTHUR N. FOXE. *Journal of Criminal Law and Criminology*. 36:11-16, *May-June*, 1945.

The problem of heredity in crime is one of the most difficult and relatively unexplored of all problems in heredity. It is the author's impression that a familial tendency to crime is by no means a rarity. There is a sharp difference, however, between a familial tendency and an hereditary tendency. There are an abundance of terms by which inheritance is desribed: "a taint, a determinant natural predisposition, a psychopathic disposition, a neuropathic constitution, a tendency to degeneration, a feeble inhibition, a special recessive Mendelian character a neuronal factor, an anatomic trait, a neuropathic diathesis, a diminished germinal vitality, a vitiation of the germ plasm, a cerebral infirmity a germinal enmity, or an unstable nervous organization." In this abundance of terms we may feel that "something" is proven but we have never been able to find out through study exactly what.

In the "Jukes," for that family illustrates the criminotic behavior that is the problem of this paper, Dugdale in 1877 found that this family was not a problem of heredity but of environment. He states, "Environment is the ultimate controlling factor in determining careers, placing heredity itself as an organized result of invariable environment—"They are not an exceptional class of people: their like may be found in every county in this state."—"In the Jukes it was shown that heredity depends upon the permanence of the environment, and that a change in the environment may produce an entire change in the career, which in the course of greater or less length of time, according to varying circumstances, will produce an actual change in the character of the individual."

Estabrook, in his "Jukes in 1915," states that they have the "same" traits of feeblemindedness, indolence, dishonesty, and licentiousness, whereas, Dugdale found their chief characteristics to be "great vitality ignorance, association with poverty, and lack of training." Estabrook states the characteristics he enumerated continue because they tend to marry persons like themselves, yet he

admits that their behavior is tempered by a better environment. Apparently there is a greater difference in something between Dugdale and Estabrook than there is between the Jukes and the rest of society. This is cleared up when we see a perhaps over-liberal attitude in Dugdale and a strongly moralistic tone in Estabrook. The work of Dugdale and Estabrook is important but it it needs a detached evaluation of all possible hereditary and enviromental factors. We can not examine heredity alone.

From Lombroso to Hooton we as yet have no proof of a special physical inheritance in criminotic behavior. Our instruments are too crude. It becomes necessary to examine heredity and environment in all of the vital periods: pre-gestational, gestational, infantile, childhood and later states. In view of the wilderness of material "the scientist can only be humble and very happy indeed if he has contributed a tiny bit or orientation and fact."

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DISABILITY ARISING FROM CLOSED HEAD INJURIES. DEREH DENNY BROWN. *Journal of the American Medical Association.* 127:429, 1945.

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This is an interesting study undertaken by a team of the Harvard Medical School consisting of neurologists, psychiatrists, a psychometrist, an electroencephalographer and a social worker. Subject of the study were 200 civilian cases of closed head injuries with exclusion of vagrants, alcoholics and the age groups below 15 and above 50. Although no new conclusions have been reached some of the statistical data are worthwhile quoting. Only 18 cases had clear evidence of skull fracture. Only 27 cases had posttraumatic amnesia. Only 55 per cent complained of symptoms in convalescence. Of these 110 cases 16 had complaints related to structural physical disorder, 68 to dizziness, 81 to headache and 70 to psychiatric symptoms. Only 30 cases presented the association of headache, dizziness and psychiatric symptoms known as "post-concussional syndrome." Since their prognosis is not different from those presenting mental symptoms alone the author suggests to drop the term "post-concussional syndrome." 136 out of 170 patients returned to full occupation within 2 months. Among the factors delaying recovery psychiatric symptoms are leading. Even in cases in which signs of more severe organic injury were present and affecting the prognosis they were intermingled with features of psychologic stress (initial excitement or apathy, occupational worries, anxiety over compensation). Intellectual impairment, if present, was insignificant and temporary; persistent impairment could be found only in cases over 55 years old and chronic alcoholics. The symptoms associated with prolonged disability, whether the injury had been severe or mild, were predominantly symptoms of anxiety neurosis. The environmental factors were more important for the question of disability than the severity of the injury. Psychiatric treatment therefore appears to have the greatest promise in the control of effects of those injuries.

The author's report shows the great difference between the prognosis of the cases seen in a general hospital and the selected group of more severe cases ordinarily seen in neuropsychiatric wards or in a neuropsychiatrist's office. That difference accounts for many differences in opinion existing in the literature and in courts. We hope that in future articles the author will discuss the problem of psychotherapy. Just because the psychological factors are "environmental" in character the psychotherapy of those cases is a very difficult problem and calls for a new and more "environmental" approach.

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C — Clinical Psychology

EFFECTS OF PSYCHOLOGICAL DEPRIVATION IN INFANCY AND SUBSEQUENT STIMULATION. WILLIAM GOLDFARB, *The American Journal of Psychiatry*. 102:18-33, *No.* 1. *July* 1945.

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The deep psychological relationship between a child and his parents develops in earliest infancy and can definitely be observed as early as the sixth month. At that tender age the child shows already his attachment to a certain person, usually one or both parents, and his removal to a different environment causes a psychological shock in the child from which it can only be cured by complete restitution of the parental psychological ties. Upon the presence and the quality of this relationship depend the child's future conceptions, his relationships to other people and to the world in general, his identifications, and his ability to solve problems.

The results of deprivation of the typical psychological experiences in infancy can best be studied by observation of children in institutions. There, the circumstances under which the children live are in many ways opposite to those in private homes. The child is just one of a group, enjoys no particular personal attention, he has no ties with a specific adult, and he has no influence upon the organization of his daily life which is completely regulated from the outside.

The effects of this type of environment were the subject of numerous previous studies by the author himself as well as by others. The investigated groups were comprised of children whose first three years had been spent in an institution and who later had been transferred to foster homes (institution children) and a control group of an equal number of children who were put into foster homes after having spent a very short time within their own families (foster home children).

All these studies, which included children between the average ages of six to twelve, were agreed that the foster home children were definitely superior to the institution group as far as intellectual and emotional development and adjustment were concerned. While the true mothers of the institution children were superior to the true mothers of the foster home children, the former group nevertheless showed a greater measure of emotional immaturity and mental retardation. The institution children were generally anxious, restless, hyperactive, and had difficulty in concentrating. The younger institution children, especially, were prone to temper tantrums, cruelty and destructiveness, while the older ones in addition were rather unpopular with other children and showed poor results in their school wor. There was a conspicuous lack of drive and ambition and unusual apathy of personality. Moreover, the institution group required frequent foster home replacement, a fact which was explained by the deviating behavior of these children.

The present study is an effort to investigate the changes that occur in institution children after a relatively short time in a foster home since the majority of the caseworkers reported that the greatest changes in the children's behavior and functioning levels could be observed in the first few months following placement.

The experimental groups consisted of 15 institution children who had been placed into the institution in early infancy (mean age 4½ months) and had been under institutional care for 32 months. They were first tested at the mean age of 34 months, transferred to foster homes at 37 months, and underwent a second test seven months after

placement, at the average age of 43 months. The control group consisted of 15 foster home children who had always lived within a family and whose age at the time they were admitted to the foster home as well as the ages at which they were tested corresponded closely with the data of the institution group.

The maternal background of all the children was carefully investigated. It was found that the majority of the mothers were born in the United States. Their occupational status was investigated according to the Minnesota scale, and, as in the previous studies, it was found that the occupational background of the true mothers of the institution group was superior to that of the mothers of the foster home children. However, no appreciable difference could be found in the educational status of the mothers of the two groups.

In most cases it was impossible to establish the identity of the children's true fathers.

The occupational status of the foster fathers was also classified according to the Minnesota scale for occupational classification. It was found that the foster fathers of the institution children were superior to the other group, that more professionals and skilled laborers were among the former. This interesting difference may be explained by the fact that the more recent foster home applicants belong to a higher economic and social group than those of three or more years ago. This may be due to the fact that the agency had increasingly utilized the newspapers to make its appeal for homes and that their readers may be superior to those foster parents formerly obtained by other methods. In addition, the agency had lately taken a more active part in the procedure of adoption which would encourage foster parents who, wherever possible, wish to be considered as the child's adoptive parents. All this goes to prove that the atmosphere of the homes into which the institution children were placed provided at least as much intellectual and emotional stimulation as the families in which the foster home children grew up.

These factors lead to the important conclusion that whatever differences exist between foster home and institution children are not to be sought in their backgrounds, but in the way they spent the first three years of their life. While no conclusion can be drawn as to the measure of influence which the true fathers of the children had upon their adjustment, the background of the mothers is known and the superiority of those of the institution group clearly established. It was also found, in addition, that of the true mothers of the foster home children, three were feebleminded and one psychotic, whereas among the true mothers of the other group only one was diagnosed as feebleminded and one as psychotic. The reason for the higher standard of the mothers of the institution group lies in the fact that these mothers, possessing some degree of energy and competence, were more apt to look for the temporary home which the institution would provide, while the mothers of the foster home children had proven their incompetence as parents and the necessity of long time care for the child was therefore indicated.

All the institution children were first tested in the institution with the nurse, wherever advisable, present. The foster home children were first tested in an office that was unfamiliar to them. Whenever necessary, the foster parents were permitted to remain in the examining room. The second test took place for all children in a typical interviewing office. The examiner, a thoroughly trained psychologist, was the same in all tests.

In order to determine contradictions in data and to evaluate the reliability of differences, the small sample theory was used. Wherever the data were continuous and there was an in-

terest in comparing the children with the normal population, averages were computed with the "t" ratio as the basis for evaluating the meaning of differences in the data. The Chi method was employed in cases where it seemed best to handle the data as non-continuous in order to examine the reliability of statistical association.

The intelligence tests were conducted with the Merrill Palmer scale of mental tests, the Cattell infant intelligence scale, and the revised Stanford-Binet examination (Form L.) Since it was expected that the revised Stanford-Binet examination would prove too hard for some of the children, the Cattell scale was used in addition. It is also an age scale and makes possible immediate determination of mental age. Goldfarb suggests that the Cattell scale be employed as a downward extension of the revised Stanford-Binet examination (Form L). Since the Cattell scale covers the age from two to 36 months, this downward extension would provide a continuous scale from infancy to maturity. The correlation between the revised Stanford-Binet examiination (Form L) at 36 months and the Cattell scale at 30 months is higher than between the revised Stanford-Binet examination (Form L) at 36 months and at 42 months. This would justify employment of the Cattell scale as a downward extension of the revised Stanford-Binet examination (Form L). In the present investigation, the Cattell I. Q. was used in all those cases where it was not possible to obtain a two year basal on the revised Stanford-Binet examination; in the same way, the Stanford-Binet I. Q. was employed where a Cattell ceiling could not be obtained.

In the first test, the average I. Q. of the institution children in the Stanford-Binet-Cattell examination was found to be 68.10, while that of the foster home children was 96.38. In the second place, seven months after they had been placed in foster homes, the institution children produced an I. Q. of 75.84. Yet within the same period, the I. Q. of the foster home group rose to 101.52, presenting a difference of 25.68 points.

In addition, the average performance of the foster home children was within normal ranges while that of the institution group was far below normal in both first and second tests. The rise in the children's I. Q. may be ascribed to practice effect and to statistical regression as a result of measurement errors.

The average I. Q. of the institution children in the first Merrill Palmer test was 78.91 and that of the foster home group was 90.51. In the second test, the institution children showed an I. Q. of 77.84, and the foster home children scored 89.71 I. Q. points. Here, again, the foster home group proved its superiority with regard to the test itself as well as to the average performance which was in accordance with normal standards while that of the institution children was definitely inferior.

It is interesting to note that during the first test series the institution group produced a mean Merrill Palmer I. Q. which was 10.81 higher than the result of their Stanford-Binet-Cattell test and that, after approximately seven months in foster homes, this difference in the tests was reduced to two points. This may be explained through the fact that in the second test more emphasis was put on the motor, non-language aspects of behavior. Nonetheless, both tests showed that the institution children were inferior to the normal population.

On the other hand, the foster home group produced better results in both the first and second test in tests that stress verbal performance. This was even more evident in the second series of tests when the Stanford-Binet-Cattell I. Q. was 11.81 points than the Merrill Palmer I. Q.

The language tests were conducted with the Williams-McFarland, and the little language achievement scale. The individual scores were computed by adding the scores achieved for intelligibility, speech sounds employed, and the level of language organization.

In this test, the foster home children again proved definitely superior in both first and second testings. The vocabulary of the children was tested by showing them pictures of simple objects within the range of their everyday experience, such as table, shoe, tree, scissors etc. which they were asked to identify. Even in the second tests, that is, after they had spent considerable time in a normal environment, the mean vocabulary of the institution group was inferior to the results obtained from the foster home children in their first test. Further proof for the extent of language retardation in the institution group is found in the fact that in the first test 60 per cent of them could not identify even one object. They showed some improvement in the second test but were still far below the level of the foster home group.

The results of these tests serve to show up the passivity and the consequent learning deficiency of the institution children.

No difference in the scores of the two groups was encountered in the Mccacill-Welman motor coordination test.

In order to establish the degree of the children's social maturity, the Vineland Social Maturity scale was employed. In the first test, the average social quotients of both groups were within normal ranges and did not show any appreciable differences. After seven months, the mean social quotient of the foster home children rose while that of the institution children dropped. Moreover, the institution group showed itself inferior to the normal population while the foster home group remained within normal limits. This phenomenon of regression may be due to the fact that the institution children had derived their social maturity almost entirely from the external control of institutional routine. Their basic social incompetence became apparent when this external control was removed by transfer to foster homes. The children did not possess the inner will to look afer themselves nor the drive to grow which most children derive from their early identifications. In addition, the institution children were psychologically unprepared to assimilate the warmth which the family environment offered them normally, and they consequently became overly dependent and excessive in their demands for affection.

The children's behavior was judged from their reaction to the examiner and to the test materials ,the rating being derived from similar scales in the California behavior inventory. In the first test, more of the foster home children showed favorable reactions to both the examiner and the materials. However, in the second test no differences were noted between the two groups as far as friendliness to the examiner and interest in the materials was concerned. The result of this test proved that there was greater stability of behavior among the foster home group between the first and second test.

Each of the children underwent a Rorschach examination. In both tests, the institution children exhibited a more pre-adaptive, primitive type of response to the test, and only in this group there were children who in both tests did not show any response at all to the Rorschach cards. In this group there was generally less visible interest in pictures as such and the examiner received the impression that there was altogether a certain emptiness of reaction. This holds true, even if the greater language deficiency of the institution children is taken into consideration.

In the second Rorschach testing, when the level of vocabulary of the institution children had risen sufficiently, comparative tests showed again greater emotional variability among the foster home group.

The results of the Rorschach test indicate that there are considerable differences in language, intellectual level, social maturity, level of concept formation and emotional maturity between the two groups, with the foster home children superior to the institution children. This also applies to the degree of contact with the outside world, the will to face and organize the external world experience, and the " . . . richness and maturational level of personality as expressed in imaginative and conceptual competence and even in the more primitive levels of perceptual reaction."

In conclusion, the author finds that the most conspicuous trait in the personality of the institution child is his apathy and passivity of personality which is reflected in all spheres. It enables the child to enter superficial relationships only; it characterizes his reaction to failure or obstacles, to limitations and separation. It this apathy which may be responsible for the general retardation and paucity of all aspects of his personality even with regard to perceptual reaction.

From the material presented, it is evident that severe psychological deprivations such as institution children have to experience, have a profoundly deterimental effect on the psychological growth of the child. This effect persists in spite of carefully supervi placement in selected foster homes and, in some cases, psychiatric treatment. It appears that these deprivations result in a " . . . quasi-constitutional fixation on the most primitive levels of conceptual and emotional behavior."

Unless some basis for the development of normal identification and normal expression of will in institution children can be discovered, they will be unable to utilize new experiences for the improvement of their intellectual and emotional status which would make it possible for them to become well adjusted members of the normal population.

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D — Sociology and Statistics

THE SOCIOLOGY OF PERSONAL BEHAVIOR *by* ROBERT F. CREEGAN. *The American Journal of Sociology*. 50:386,389, *March* 1945.

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Dr. Creegan is of the opinion that the term "Social Sociology" is in need of clear definition. Three concepts of this term are existent, the first being that of collective mental life. The chief exponent of this concept is William McDougall. The second group considers the term to include any aspect of the individual personality which has a social background. Finally many sociologists believe that the scope of social sociology is a study of the attitude and traits of the individual towards the social milieu in which he finds himself.

The author's personal belief tends towards the third of these concepts.

He would limit the scope of the term to its rationale rather than to its dynamic expression. By "rationale" is meant the relation of the attitudes of the individual toward the so-called "so-

cial frame of reference." It must be realized that standards of belief and evaluation which an individual may have are not necessarily conscious convictions and determinations of that individual. In many instances they are unconsciously motivated but nevertheless they do have a direct relationship to the persons of the community in which such an individual moves. Furthermore, it must be recalled that many individuals, particularly if they are young people, are motivated in their conduct and attitudes by a projected idealized society. Obviously, such a society must not only be imaginative but must be immaturely conceived due to the lack of experience and judgment of the individual himself. It can never have the solid relationship that a concept based upon an actual state of society would have. Attitudes and evaluations of the individual change from time to time as his own knowledge and experience accrues; hence, the rationale of behavior of that individual likewise alters. Ethical conflicts may assume a very important role in the individual at special times, leading to misconceptions which develop tensions or even a feeling of futility and despair regarding the eventual outcome of the community itself. At such instances, fear of a certain sort is engendered and the individual may act irrationally. Usually this fear is accompanied by a sense of guilt for which the individual seeks exculpation. Certain tensions may lead to a sense of frustration with projection upon the community and paranoid attitudes of mind.

Nearly every individual hopes to succeed in the attainment of a certain freedom of conduct. He probably has a certain quest in mind as an individual objective and this quest may seriously conflict with the demands of the community upon him. It becomes necessary for that individual to recognize that there is a distinction between a so-called abstract freedom of which he has made a shiboleth and the actual freedom which can be obtained by conformance to the demands of the community. This is a matter of self-adjustment, of self-evaluation, and a philosophical realization of the limitations of the sphere in which he is permitted to move as an individual in the community. When an individual attains the attitude of mind in which he can recognize the impositions of these limitations and can accept them with a certain freedom of spirit and mind, he will achieve the freedom of thought and action he seeks even to a greater degree than he at first thought possible. The ability to create and to make out of the social values which the community offers the individual is unending. It becomes the lot, therefore, of each individual to be able to recognize these distinctions and to bring himself through self-discipline into relation with the social values of reality imposed upon him in the everyday process of living.

V. C. B.